1	STATE OF NEW MEXICO
2	ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3	OIL CONSERVATION DIVISION
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5	EXAMINER HEARING
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8	IN THE MATTER OF: Case 9846
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10	Application of Yates Petroleum Corporation for compulsory pooling,
11	Eddy County, New Mexico.
12	
13	TRANSCRIPT OF PROCEEDINGS
14	
15	BEFORE DAVID R. CATANACH, EXAMINER
16	STATE LAND OFFICE BUILDING
17	SANTA FE, NEW MEXICO January 10, 1990
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MR. CATANACH: Call case 9846. MR. STOVALL: Application of Yates Petroleum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant requests this case be continued to January 24, 1990. MR. CATANACH: Case 9846 is hereby continued to the January 24, 1990, docket.

CERTIFICATE OF REPORTER 1 2 STATE OF NEW MEXICO 3 SS. COUNTY OF SANTA FE 5 I, Debbie Vestal, Certified Shorthand 6 Reporter and Notary Public, HEREBY CERTIFY that the 7 8 foregoing transcript of proceedings before the Examiner of the Oil Conservation Division was reported by me; 9 that I caused my notes to be transcribed under my 10 11 personal supervision; and that the foregoing is a true and accurate record of the proceedings. 12 I FURTHER CERTIFY that I am not a relative or 13 employee of any of the parties or attorneys involved in 14 this matter and that I have no personal interest in the 15 final disposition of this matter. 16 WITNESS MY HAND AND SEAL February 10, 1990. 17 18 19 20 CSR No. 400 21 22 I do hereby certify that the foregoing is a complete record of the proceedings in 23 the Examine hearing of Case No. 9946 24 January 10 19 90 heard by me on_ 25 Examiner Oil Conservation Division

1	STATE OF NEW MEXICO
2	ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3	OIL CONSERVATION DIVISION
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7	EXAMINER HEARING
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9	IN THE MATTER OF:
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12	Application of Yates Petroleum Case 9846
13	Corporation for compulsory pooling,
14	Eddy County, New Mexico.
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16	ORIGINAL
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19	TRANSCRIPT OF PROCEEDINGS
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21	BEFORE: MICHAEL E. STOGNER, EXAMINER
22	
23	STATE LAND OFFICE BUILDING
24	SANTA FE, NEW MEXICO
25	January 24, 1990

1	EXAMINER: Call next case No. 9846.
2	MR. STOVALL: Application of Yates
3	Petroleum Corporation for compulsory pooling,
4	Eddy County, New Mexico.
5	Applicant requests this case be continued
6	to February 7, 1990.
7	EXAMINER: Case 9846 will be so continued.
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18	I do her thy certify that the foregoing is a complete record of the proceedings in
19	1 PARTITION BEARING OF Company OF COMPANY
20	m 1 1/2/11/ 1990.
21	Oil Conservation Division Examiner
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CERTIFICATE OF REPORTER 1 2 3 STATE OF NEW MEXICO) ss. COUNTY OF SANTA FE 5 6 I, Diana Abeyta, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the 7 foregoing transcript of proceedings before the Oil 8 9 Conservation Division was reported by me; that I 10 caused my notes to be transcribed under my personal 11 supervision; and that the foregoing is a true and 12 accurate record of the proceedings. 13 I FURTHER CERTIFY that I am not a relative 14 or employee of any of the parties or attorneys 15 involved in this matter and that I have no personal 16 interest in the final disposition of this matter. 17 WITNESS MY HAND AND SEAL January 31, 1990. 18 19 20 21 22 CSR No. 267 23 My commission expires: May 7, 1993 24

CUMBRE COURT REPORTING (505) 984-2244

1	STATE OF NEW MEXICO
2	ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3	OIL CONSERVATION DIVISION
4	CASE 9078
5	CASE 9846
6	CASE 9847
7	CASE 9812
8	CASE 9813
9	CASE 9850
10	
11	
12	EXAMINER HEARING
13	
14	
15	TRANSCRIPT OF PROCEEDINGS
16	
17	CONTINUED AND DISMISSED CASES
18	
19	
20	BEFORE: MICHAEL E. STOGNER, EXAMINER
21	
22	STATE LAND OFFICE BUILDING
23	SANTA FE, NEW MEXICO
24	December 27, 1989
25	

1 HEARING EXAMINER: This hearing will come 2 to order. I'm Michael E. Stogner, appointed Examiner for today's docket. Note today's date, December 27, 1989. 4 What I'll do first is call all the 6 continued and dismissed cases. So, we'll start by 7 calling Case No. 9078, which is in the matter of case 8 number 9078 being reopened pursuant to the provisions 9 of Division Order Nos. R-8450. 10 This case will be continued to the 11 Examiner's hearing scheduled for January 10, 1990. 12 13 HEARING EXAMINER: Call next case, No. 14 9846, which is the application of Yates Petroleum 15 Corporation for compulsory pooling, Eddy County, New 16 Mexico. 17 At the Applicant's request, this case will 18 be continued to the Examiner's hearing scheduled for 19 January 10, 1990. 20 HEARING EXAMINER: Call next case, No. 21 22 9847, which is the application of Yates Petroleum

At the Applicant's request, this case will

CUMBRE COURT REPORTING (505) 984-2244

Corporation for an unorthodoxed oil well location, Lea

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County, New Mexico.

be dismissed. 1 2 3 HEARING EXAMINER: Over to the next page, I'll call next case, No. 9812, which is the 5 application of Meridian Oil, Incorporated, on behalf 6 of El Paso Natural Gas Company, for an unorthodox coal 7 gas well location, Rio Arriba County, New Mexico. 8 At the Applicant's request, this case is 9 dismissed. 10 11 HEARING EXAMINER: Call next case, No. 12 9813, which is the application of Meridian Oil 13 Incorporated, on behalf of El Paso Natural Gas 14 Company, for an unorthodox coal gas well location, Rio

At the Applicant's request, this case is also continued to the Examiner's hearing scheduled for January 10, 1990.

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Arriba County, New Mexico.

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HEARING EXAMINER: Well, we're on the last page, on page 6, Case No. 9850, which is in the matter of the hearing called by the Oil Conservation Division on its own motion for an order extending certain existing pools in Rio Arriba and San Juan Counties, New Mexico.

1	CERTIFICATE OF REPORTER
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3	STATE OF NEW MEXICO)
4) ss. COUNTY OF SANTA FE)
5	
6	I, Carla Diane Rodriguez Certified
7	Shorthand Reporter and Notary Public, HEREBY CERTIFY
8	that the foregoing transcript of proceedings before
9	the Oil Conservation Division was reported by me; that
10	I caused my notes to be transcribed under my personal
11	supervision; and that the foregoing is a true and
12	accurate record of the proceedings.
13	I FURTHER CERTIFY that I am not a relative
14	or employee of any of the parties or attorneys
15	involved in this matter and that I have no personal
16	interest in the final disposition of this matter.
17	WITNESS MY HAND AND SEAL December 29, 1989.
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19	CARLA DIANE RODRIGUEZ CSR No. 91
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21	My commission expires: May 25, 1991
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2 5	Oil Conservation Division

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
CASE 9846
EXAMINER HEARING
IN THE MATTER OF:
Application of Yates Petroleum Corporation
for Compulsory Pooling, Eddy County,
New Mexico.
TRANSCRIPT OF PROCEEDINGS
BEFORE: DAVID R. CATANACH, EXAMINER
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
February 7, 1990
ORIGINAL

APPEARANCES ROBERT G. STOVALL FOR THE DIVISION: Attorney at Law Legal Counsel to the Divison State Land Office Building Santa Fe, New Mexico DAVID R. VANDIVER, ESQ. FOR THE APPLICANT: Fisk & Vandiver 7th & Mahone, Suite E Artesia, New Mexico 88210

I N D E X Page Number Appearances CY COWAN Examination by Mr. Vandiver Examination by Examiner Catanach Examination by Mr. Stovall Examination by Examiner Catanach RAY BECK Examination by Mr. Vandiver Examination by Hearing Examiner DR. DAVID FRANCIS BONEAU Examination by Mr. Vandiver Certificate of Reporter EXHIBITS APPLICANT'S EXHIBITS: Exhibit Exhibit Exhibit Exhibit Exhibit Exhibit Exhibit Exhibit 8 Exhibit Exhibit 10 Exhibit 11

EXAMINER CATANACH: At this time we'll call 1 2 case 9846. MR. STOVALL: Application of Yates 3 Petroleum Corporation for compulsory pooling, Eddy 4 5 County, New Mexico. 6 EXAMINER CATANACH: Appearances in this 7 case. MR. VANDIVER: Mr. Examiner, David Vandiver 8 9 of the Artesia firm of Fisk and Vandiver, appearing on 10 behalf of the Applicant Yates Petroleum Corporation. 11 I have three witnesses to be sworn in this case. 12 EXAMINER CATANACH: Any other appearance in 13 this case? Will the witnesses please stand to be 14 sworn in. 15 (Thereupon, all witnesses were sworn.) 16 MR. VANDIVER: May I proceed, Mr. 17 Examiner? 18 EXAMINER CATANACH: Yes, sir. 19 CY COWAN the witness herein, after having been first duly sworn 20 upon his oath, was examined and testified as follows: 21 22 EXAMINATION BY MR. VANDIVER: 23 Mr. Cowan, state your full name, your 24 0. 2.5 occupation, and by whom you're employed, please.

- My name is Cy Cowan. I'm employed by Yates 1 Α. Petroleum Corporation of Artesia, New Mexico, as a 2 landman. 3
 - 0. You've previously testified this morning as a petroleum landman and your qualifications were accepted by the Examiner?
 - That's correct. Α.

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- Are you familiar with the title to the land 0. with regard to the ownership of the various interests within the spacing and proration unit for the well which is the subject of Yates Petroleum Corporation's application in this case?
 - Yes, I am. Α.
- MR. VANDIVER: I tender Mr. Cowan as a petroleum landman, Mr. Examiner.
- 16 EXAMINER CATANACH: He is so qualified.
- 17 0. Mr. Cowan, summarize the purpose of Yates' application in Case 9846 on the Clifford well.
 - Α. Yates Petroleum Corporation seeks an order pooling all mineral interests from the surface to the base of the Canyon formation underlying the southeast quarter of Section 35, Township 19 South, Range 24 East, forming a standard 160-acre spacing and proration unit for any and all formations and pools developed on 160-acre spacing.

Also, under the southeast guarter of the southeast quarter of Section 35, forming a standard 40-acre spacing unit and proration unit for any and all formations. Said spacing unit is to be dedicated to a well to be drilled at a standard location 660 feet from the south and east lines of Section 35.

We would like to discuss the costs of drilling and completing this well and the allocation of costs, as well as actual operation costs and charges for supervision, and designation of Applicant as operator of the well, and charge for risk involved in the drilling of this well.

- Q. Mr. Cowan, identify Exhibit 1 which is the land plat, and review the information shown on that exhibit.
- A. Exhibit No. 1 is a land plat showing portions of Township 19 South, Range 24 East, Eddy County, New Mexico. Outlined in red in the southeast quarter of Section 35 is 160-acre spacing unit dedicated to the Clifford "ADD" #1 well. The actual well site is shown with a red dot in the southeast of the southeast of that quarter.
- Q. What percentage of the working interest and operating rights within the spacing unit does Yates

 Petroleum Corporation and affiliated entities own?

- A. Approximately 80 percent.
- Q. Are there other parties were leasehold and unleased mineral interests within the spacing and proration unit?
 - A. Yes, there are.

- Q. Have you contacted all parties with leasehold or unleased mineral interests and requested them to join in the proposed well or reach some other agreement?
 - A. Yes, we have.
- Q. And they've not all agreed to participate or otherwise reach an agreement on this?
 - A. That's correct.
- Q. Which parties have not agreed to participate or otherwise farm out or lease?
- A. The parties which haven't responded to our well proposal are Kathleen Cone and Clifford Cone.
 - Q. How much interest do they own in the--
- 19 A. Approximately five percent.
 - MR. VANDIVER: Mr. Examiner, Exhibit 2 is an Affidavit of Mailing prepared by my office pursuant to Rule 12-07, reflecting that the application of Yates Petroleum in this case was mailed to, among other parties, Kathleen Cone and Clifford Cone on December 4, 1989. And if you will note that the

return receipts are attached to that exhibit reflecting that Kathleen Cone received the letter December 5, 1989, and Clifford Cone also received notice December 5, 1989.

- Q. Mr. Cowan, identify the packet of correspondence we've submitted as Applicant's Exhibit 3 in this case, and review that correspondence and other material for the Examiner, please.
- A. Exhibit No. 3 is a packet of correspondence between working interest owners, and on referring to the Clifford "ADD" #1 well, I would like to start at the back of this packet, if I may.
- Q. If I could ask you one question. Going back to the interest of the parties who have not agreed to participate, what type of interest do Clifford Cone and Kathleen Cone own in the lands in the proposed spacing unit?
 - A. They have a mineral interest.
- Q. If you would start at the back of Exhibit 3 and describe the information contained there?
- A. The very last sheet in Exhibit 3 are landman's notes and scribbles. And the main point I wanted to point out, these notes were written on September 10, 1987, and they're referring to acreage in Section 35, of 19/24, the acreage in question

today. Then there's a quick plat, a page or two of--

- Q. What do these notes depict?
- A. They depict the different acreage that we're trying to get the Cones to join us in, and their interest in the acreage.
- Q. Were you trying to drill a well at this time or obtain an oil and gas lease from the Cones?
- A. I believe we were just trying to obtain an oil and gas lease back in 1987.
 - Q. All right. Go ahead.

A. If you'll move a couple of pages ahead,
you'll see a letter from Douglas L. Cone to Mr.
Beardemphl, our landman at this time. I believe this
is around September of 87. Briefly, the letter says
that Doug Cone wants to join in the well when
proposed, but is not interested in leasing at this
time.

The next letter forward is dated September 23, 1987, from Tom R. Cone, again to Mr. Beardemphl, regarding acreage which includes this Section 35, the southeast quarter, and Mr. Beardemphl is trying to lease acreage from Mr. Cone at this time. And Mr. Cone is asking for more terms and information on the offer.

Q. What's the significance of letters from

Douglas Cone and Tom R. Cone? You were trying to
lease all the Cone interests?

- A. Yes, we were, and we were trying to lease other acreage in that section, also.
 - Q. Go ahead with Exhibit 3.
- A. Okay. The next letter is dated May 2, 1989. This is an offer. We've gone from leasing their acreage to offering to buy their acreage, and this was sent to the Cone family on May 2, 1989.
- Q. What are the terms of the offer to purchase?
- A. We're offering them \$40,000 for their 35.6 net mineral interest, and we gave them, I believe, the standard time to respond back to us, which was May 20, 1989, and are asking them to please reply to us.
 - Q. All right.

A. The next letter is dated October 24, 1989, to all working interest owners. This is the actual proposal to drill the Clifford "ADD" #1 well in Section 35, southeast quarter of Township 19 South, Range 24 East. It briefly discusses what Yates wants to do, the formations, the approximate AFE costs for dry hole and completed well, and also states that we enclose two copies of the AFE and one copy of the operating agreement for the working interest owners to

sign. And there's a note that we're asking people to please work with us. And, if they don't want to join the well, we'll be glad to talk with them on any other options they might wish.

- Q. All right. What's the next correspondence?
- A. The next letter is dated November 3, 1989, the working interest owners, regarding the Clifford "ADD" #1 well. This letter briefly summarizes that we're starting to receive responses from other working interest owners, and we're asking those who have not responded to please do so at their earliest convenience.

The next letter is dated December 1, 1989, to the working interest owners, and this is just a brief letter outlining who hasn't joined, and asking these people to respond. And also we'll be willing to discuss either leasing or farming out their acreage under this proposed well.

And the last letter is dated December 13, 1989, to the working interest owners, and it states everyone has responded but three people have not responded, and the three people are Kathleen Cone and Clifford Cone, and since this letter one of the other working interest owners has responded; therefore, the Cones are the only ones who have not responded.

- Q. If I could summarize Exhibit 3, you began trying to lease the Cone mineral interests in 1987, and then offered to purchase in May 1989, and then proposed drilling the well in October 1989, and the Cones have not agreed to participate or lease or farm out?
 - A. That is correct.

- Q. Now, if I could ask you to identify

 Applicant's Exhibit 4, the Joint Operating Agreement,

 and review that agreement for the Examiner?
- A. Exhibit 4 is a standard form A.A.P.L. Form 610, 1977 Model Form Operating Agreement for the Clifford "ADD" #1 well. The Operating Agreement is dated October 24, 1989, designating Yates Petroleum Corporation as the operator of this well. And the contract area is Section 35, the southeast quarter of Township 19 South, Range 24 East, in Eddy County, New Mexico.
- Q. If you would please refer to Exhibit A of the Joint Operating Agreement and review the information briefly on that exhibit?
- A. Exhibit A shows the working interest owners and their proportionate share of costs that they will share in the drilling of this well.
 - Q. Now, if I could refer to Exhibit C of the

Joint Operating Agreement, the COPAS accounting procedure form, and point out for the Examiner the overhead or supervision rates requested by Yates Petroleum Corporation for operations in connection with drilling and producing the Clifford "ADD" #1 well?

- A. On Exhibit C, page 3, under "Overhead," the drilling well rate is \$3,500 a month and the producing well rate is \$350 a month. These rates are comparable to drilling a Cisco Canyon well to this depth in this area, and these are Yates Petroleum Corporation's standard overhead rates for this area.
- Q. You've drilled numerous Canyon wells in this area, Mr. Cowan?
 - A. Yes, that is correct.
- Q. These rates are consistent with the rates you've charged for other wells and the rates that other operators charge?
- 19 A. Yes.

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- Q. In the area for wells of this depth?
- A. I believe they might even be a little bit lower than some of the other companies that are operating in this area.
- Q. This Joint Operating Agreement was submitted to all the other working interest owners

owning working interests, leasehold interests or 1 unleased mineral interests in the proposed spacing unit, and has been approved and executed by all those 3 parties?

> Α. That is correct.

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- Now, if I could refer you to Applicant's Q. Exhibit 5 in this case and ask you to identify and describe its contents?
- Exhibit No. 5 is Yates Petroleum 10 Corporation's authority for expenditure for the 11 Clifford "ADD" #1 well in Eddy County, New Mexico, which will be an 8100 foot Canyon well. At the bottom 12 it breaks out the dry hole costs, being \$241,000, and 13 a completed well at \$539,000. It also breaks out the 14 working interest owners and their working interest 15 16 percentages.
- And the interests of Kathleen Cone and 17 0. Clifford Cone are shown on this AFE? 18
 - Α. Yes, that is correct.
- Are the costs reflected on this AFE those 20 0. obtained by Yates' experience in drilling Canyon wells 21 22 in this area?
- 23 Yes, they are. Α.
- Those costs are reasonable and necessary 24 0. 25 costs to drill a Canyon well at this time in this area

as determined by the Yates engineering department?

- A. Yes, that is correct.
- Q. Mr. Cowan, were Exhibits 1 through 5 either prepared by you or under your direction or supervision or taken from the business records maintained by Yates Petroleum Corporation?
- A. Yes, they were.

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MR. VANDIVER: Mr. Examiner, I'll move the admission of Applicant's Exhibits 1 through 5, and I have no further questions of the witness.

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

EXAMINATION

- BY EXAMINER CATANACH:
- Q. Mr. Cowan, can you describe for me exactly what acreage is owned by Kathleen and Clifford Cone, or where that is located?
- A. They own mineral interests in the southeast quarter at Section 35, Township 19 South, Range 24

 East. This is shown in the Unit Operating Agreement as part of Exhibit A.
- MR. VANDIVER: I believe it's number 5
 listed on Exhibit A of the Operating Agreement, or
 Exhibit A-1. I'm sorry.
 - Q. Do you know which quarter/quarter section

1 | that may be in, Mr. Cowan?

2 A. I believe the minerals are just spread 3 throughout.

MR. STOVALL: If I may rephrase the question for the Examiner?

EXAMINATION

BY MR. STOVALL:

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- Q. Is it your understanding that their interests are an undivided fee mineral interest in the entire southeast quarter portion of that?
- 11 A. Yes.
- Q. Mr. Cowan, with respect to the Cone
 interests, you've indicated that only the two Cones
 have not agreed to join or lease their interests.

 Have all of the other Cone interests somehow committed
 to this production unit, is that correct?
 - A. That is correct.
 - Q. Is that by lease or have they joined in as working interest owners and fee mineral owners?
 - A. They're working interest owners and fee mineral owners.
 - Q. Let me go back to Exhibit A-1 for a minute and make sure I'm clear what you're doing. Number 4 on A-1, Cathy Cone Auvenshine, is she leased to Yates or is she participating? It appears on the exhibit

- 1 that it's a lease. Do you know whether that is
 2 correct or not?
 - A. May I talk to David for a second? I don't show her under the working interest owners under Exhibit A.
- 6 MR. VANDIVER: Number 4 is a lease.
- 7 A. It's a lease. She's leased to us.
 - Q. Then under number 5 you've listed all the other Cones, and we would refer to Exhibit A to determine if they're working interests, is that correct?
- 12 A. Yes.

- Q. Their interest, is it participating as 100 percent working interest or is it participating as a fraction working interest with a portion of their interest attributed to a royalty type of interest?
- A. Yes. A portion of it goes to a royalty interest and then the rest of it is as a working interest.
- MR. VANDIVER: That's under the terms of the Operating Agreement. Exhibit B contains an oil and gas lease, and as to unleased mineral interests it's deemed to be leased under the form attached as Exhibit B, which contains a 3/16th royalty, and then the balance is treated as a working interest. And I

- believe that's under Article III(A) of the Operating
 Agreement.
 - Q. And you understand that under State statute, if we pool the Kathleen Cone--and which is it, Clifford Cone?
 - A. Clifford Cone.
 - Q. --and Clifford Cone, that those will be treated as one-eighth royalty, seven-eighths working interest?
- 10 A. Yes.

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- 11 Q. You understand that?
- 12 A. Yes, sir.
- 13 Q. Have you dealt with the Cones previously?
- 14 A. I personally have not.
- Q. The reason I ask that question is I know
 we've had forced-pooling cases before the Division
 involving the Cones before. I say that on the record
 primarily for the purpose of establishing that they do
 have some knowledge of their interest in the oil and
 qas minerals in Southeast New Mexico.
- 21 MR. STOVALL: I have no further questions.
- 22 EXAMINATION
- 23 BY EXAMINER CATANACH:
- Q. Mr. Cowan, these overhead rates, you've utilized in this area before, is that correct?

1 A. Yes.

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2 EXAMINER CATANACH: That's all the

3 questions I have. The witness may be excused.

THE WITNESS: Thank you.

RAY BECK

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

EXAMINATION

BY MR. VANDIVER:

- Q. Mr. Beck, state your full name, your occupation and by whom you're employed, please?
 - A. Ray Beck, geologist, Yates Petroleum.
- Q. Mr. Beck, you've previously testified on numerous occasions before the Oil Conservation

 Division and had your qualifications as a petroleum geologist accepted, and your qualifications are a matter of record, are they not?
- A. That's right.
- Q. Have you made a study of the available geological data in the area of Yates' proposed well in this case for the purpose of presenting evidence relating to the risk involved in drilling this well and recommending to the Examiner a risk factor penalty?
- A. Yes, I have.

- Q. And you've also prepared certain exhibits which you will refer to in connection with your testimony?
 - A. Yes, that's true.

5 MR. VANDIVER: Mr. Examiner, I'll tender 6 Mr. Beck as an expert petroleum geologist.

EXAMINER CATANACH: He is so qualified.

- Q. Mr. Beck, is there risk involved in drilling Canyon wells in this area?
 - A. Yes, there is.
 - Q. And, in particular, this well?
- 12 A. This well is at risk like all the other 13 wells.
 - Q. All right. In order to illustrate some of the factors relating to the risk involved, I would ask that you refer to Applicant's Exhibit 6 and identify that and describe it, and then we'll discuss the information contained in that exhibit.
 - A. Exhibit No. 6 is a map of a large portion of Dagger Draw Upper Penn North Oil Field. Dagger Draw Upper Penn North produces oil, sour gas and brackish sulphur water from a combined stratigraphic and hydrodynamic trap consisting of a band of partially porous and permeable dolomite pinching out updip into tight sealing limestone. Downdip economic

production is limited by water. There is no water-free production in this field; however, there is a hydrodynamically northeast tilted surface below which the dolomite reservoir is virtually all water-filled. This water-filled part of the reservoir is referred to as the big water by Yates, and most operators try to perforate above the big water.

This exhibit is a combined Canyon or Upper Penn dolomite isolith and top-of-dolomite structural map. Solid contours are 100-foot contours of the net Canyon dolomite thickness and show the net dolomite to range from zero to a little over 300 feet. Dotted contours show the structural configuration of the top of the Canyon dolomite in 100-foot contours and it can be seen that generally the dolomite body dips to the east and east/southeast. It is porous and permeable zones in this body of Canyon dolomite that constitutes the producing reservoir in Dagger Draw Upper Penn North Field.

Circled well spots are Canyon or deeper penetrations. Green-colored well spots are Dagger Draw Upper Penn North producers. The one red spot is a Canyon sour gas well. It can be seen that 13 producers have been plugged in the area mapped. Uncolored circled gas well spots indicate gas

production from zones stratigraphically lower than the Canyon, such as the Strawn, Atoka and Morrow.

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According to the map, the proposed Clifford "ADD" #1 in the Southeast of the Southeast of Section 35 of 19 South, 24 East, should encounter approximately 150 feet of net Canyon dolomite and should hit the top of the dolomite at about a minus 4030 subsea all of which will hopefully result in an economically successful oil, sour gas and water well. However, let me hasten to say that the Dagger Draw reservoir is a carbonate reservoir, and like virtually all carbonate reservoirs it is complex in geometry and variable in reservoir quality from place to place. That is, there is always geological risk in drilling for and developing carbonate reservoirs. The carbonate reservoir may abruptly thin or change from porous and permeable rock to tight and impermeable rock, resulting in a so-called inside location becoming an uneconomic well.

Examples of four wells will be presented to show geological risk in drilling the Dagger Draw Upper Penn North Field. These four wells are marked by orange arrows on the map. This is, of course, a currently developing field with a number of recently completed wells with little production history, and it

must be remembered that the wells produce not only oil but sour gas and large amounts of water. Therefore, there's always a risk that a number of wells will turn out to be uneconomic. Another Yates witness will testify in more detail about high drilling, equipping and lease operations costs in this field.

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Starting from the north part of the map,
the first of the four examples that show geological
risk is the Hanks Molly #1 located 990 feet from the
south and east of Section 13 of 19/24, which
encountered a respectable 142 feet of Canyon
dolomite. This well was completed in December of 76
for an IPP of 45 barrels of oil per day plus 299
barrels of water per day. It was plugged in 79 with a
final uneconomic cumulative production of 2,594
barrels of oil, plus almost 21 Mmcf and 24,000 barrels
of water. Yet, the Hanks Molly is only 467 feet
northwest of a later drilled well, the Yates Molly
"QD" #1, which is one of the best wells in the field.

Moving to the south and the third well, to show the geological risk, is the Conoco--excuse me. The second example is the ARCO Cone Federal #1 located 660 feet from the north and east lines of 24, of 19/24, which cut 171 feet of Canyon dolomite and is surrounded by five good, excellent Canyon producers.

But the Cone Federal was completed on 11/12/64 and was plugged in 66, with a final, uneconomic cumulative production of 4168 barrels of oil.

The third well to show geological risk is the Conoco (formerly the Ralph Nix) Debbie #1, located 1980 from the south, 660 from the east of Section 11 of 20/24, which encountered 307 feet of Canyon dolomite of which 174 feet was above the big water. The Debbie well was originally completed in May of 1982 by Ralph Nix, for an IPP of 55 barrels of oil and 162 barrels of water per day. Later, when Nix wished to plug the well, Conoco took over operations in an attempt to improve the production. Conoco then finally plugged the well in November of 86 with a final cumulative uneconomic production of 5496 barrels of oil, 28 Mmcf of gas, and 211,000 barrels of water.

The fourth well to show geological risk is the Yates Cacti "AGB" State #1 in Section 2 of 20 South, 24 East, which will be discussed with the next exhibit, a cross-section whose trace is shown on this map exhibit.

Q. Now, Mr. Beck, if I could refer you to Applicant's Exhibit 7, the cross-section, I would ask you to identify that and describe the information contained in that exhibit.

A. Exhibit No. 7 is a Northwest to Southeast structural cross-section depicting the depth dimension across the southern part of Dagger Draw Upper Penn North Oil Field. The compensated neutron-density porosity logs are hung on a minus 3500 feet below sea level datum. Vertical scale is two and a half inches is equal to 100 feet, and the horizontal distance between wells is only proportional to map distances.

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Shown is the top of the Canyon limestone, called Upper Penn by some workers. Also shown is the limits of the dolomite reservoir facies and the hydrodynamically tilted "big water" contact.

In order to have a chance at finding commercially economic hydrocarbons in Dagger Draw Field, one must encounter adequate porous and permeable dolomite reservoir facies above the tilted "big water" contact below which the dolomite reservoir facies is almost all water-filled.

The fourth well from the left on the cross-section, the Yates Cacti "AGB" State #1, cut 116 feet of section between the top of the dolomite to the "big water." However, 52 feet of the middle of that Section was not dolomite reservoir but a tight interval of interbedded shale and lime. This Cacti well is currently producing from the and will later be

perforated at Canyon dolomite. However, it is possible that this well will not be an economically commercial producer from the Dagger Draw Upper Penn North Field because of the 52-foot tight interval.

"ADD" #1 which appears at first to be an inside location, is at some risk to encounter an inadequate amount of porous and permeable dolomite reservoir facies above the "big water," much like or worse than the Cacti well.

The graphic example of the Yates Cacti only reiterates the common experience that geologists have with carbonate reservoirs, which is that they are complex bodies of rock which may thicken or thin erratically or change facies erratically from porous, permeable reservoir rock to impermeable rock. There is always that risk in drilling for carbonate reservoirs.

- Q. Mr. Beck, based upon your study of this area and your review of this data, do you have a recommendation to make to the Examiner with regard to a risk factor penalty to be ordered in this case?
 - A. I recommend a risk penalty of 200 percent.
- Q. Mr. Beck, in your opinion, will the granting of this application be in the interest of

- conservation of oil and gas, the prevention of waste
 and the protection of correlative rights?
 - A. Yes, I do.

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- Q. Were Exhibits 6 and 7 in this case prepared by you or under your direction and supervision?
 - A. Yes, they were.

MR. VANDIVER: Mr. Examiner, I move the admission of Applicant's Exhibits 6 and 7 in this case, and I have no further questions of the witness.

EXAMINER CATANACH: Exhibits 6 and 7 will be admitted as evidence.

12 EXAMINATION

- 13 BY EXAMINER CATANACH:
- Q. Mr. Beck, on your Exhibit No. 6, the two
 economic wells you've shown to the north, you said
 those were located in close proximity to pretty good
 wells, is that correct?
- 18 A. Yes. They're the first two?
- 19 Q. Right. The top two.
- 20 A. Okay.
- Q. What was the difference between the uneconomic wells and the good producing wells?
 - A. Well, it's difficult to say because they were kind of old wells, but they were perforated in adequate amounts of dolomite. They, somehow or

another, got too much water for them in those days and they didn't stay with it very long and that's why they got the low reservoir cumulatives.

- Q. Both those wells produced a lot of water?
- A. That's right. All the wells in the field produced a lot of water. Evidently, when they perforated, they reached into too much water or, for other reasons unknown to me, they didn't make enough of a well to be economical.
- Q. You didn't go into any detail on the Yates
 Cacti State. What was the story with that well?
- A. Well, that was the well that was on the cross-section, Exhibit 7.
- 14 Q. Oh, okay.

- A. That well is currently a Morrow well.

 However, on the logs it shows that 52-foot interval right in the middle of the carbonate--of the dolomite section, was shale and also had facies going from dolomite to shale and limestone, which shale and limestone is not productive. And there is some question about whether this well will be economic. If it were just drilled for the Canyon reservoir, Canyon dolomite, it was a facies change there that's working against it.
 - Q. Do you have any indication that your

proposed well is going to encounter any of these
geologic problems?

A. I'm just trying to point out that even though it would appear to be an inside location, you've got a well here that's eight-tenths of a mile to the southwest, the Cacti well, which may not have the reservoir to make a good well, and that could happen to the Clifford. We hope it won't, but there's always that risk. And I think there should be a charge for that risk when we take on these other people's interest.

EXAMINER CATANACH: That's all the questions I have of this witness. You may be excused.

DAVID FRANCIS BONEAU

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

18 EXAMINATION

19 BY MR. VANDIVER:

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- Q. Dr. Boneau, please state your full name, your occupation and by whom you're employed.
- A. My name is David Francis Boneau. I work as an engineer for Yates Petroleum Corporation in Artesia, New Mexico.
 - Q. You have previously testified before the

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- Oil Conservation Division as an engineer on numerous
- 2 occasions, have you not, and had your qualifications
- 3 accepted and your qualifications are a matter of
- 4 | record?

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5 A. Yes, sir.

well in this case?

- Q. Have you made an engineering study of the area surrounding Yates' proposed Clifford "ADD" #1
- 9 A. Yes, sir, I have done that, and I hope to
 10 be able to present some numbers that maybe will make
 11 Mr. Beck's arguments a little more tangible.
- 12 Q. You've prepared certain exhibits to 13 illustrate your testimony in this case?
- 14 A. Yes, sir, I have done that.
- MR. VANDIVER: Mr. Examiner, I would tender

 16 Dr. Boneau as an expert petroleum engineer.
- 17 EXAMINER CATANACH: He is so qualified.
- 18 Q. Your testimony will also be for the purpose 19 of recommending a risk factor penalty in this case?
- 20 A. That's correct.
- 21 Q. If I could refer you to Applicant's Exhibit
 22 8 in this case and ask you to identify that and
 23 describe the information shown?
- A. Yes. Exhibit 8 is a map of the area of the Dagger Draw Upper Penn North where I have listed, next

to the well locations, what I call current oil rate in barrels of oil per day. There are 28 wells there and 17 of them are operated by Yates, and Conoco and Texaco are the other major operators in the field.

Current oil rate means January numbers for the Yates wells and it means the most current C-115 that I could obtain, which was October of 1989, for the other people's wells. It's an attempt to tell you what the oil rate is of the wells in that area.

The wells offsetting the Clifford--well, the Clifford is in southeast, southeast of Section 35 of 19/24, as indicated by the red dot. The wells offsetting it, the Roden #4, makes 18 barrels of oil a day, the State CO #3 makes 26 barrels of oil a day. The State CO #2 is a real good well at 293 barrels of oil per day. The southeast offset, the Foster AN #1, makes 126 barrels of oil a day, and two wells a little to the west make 18 and 41 barrels of oil per day.

A recurrent theme is going to be that these are not normal wells. You need like a 100-barrel-a-day well to make money because of the huge costs that are involved. Let's go on from there, but you might expect the Clifford to be anywhere from a 20 barrel of oil per day to a 2- or 300 barrel of oil per day well, based on these numbers. My point is

going to be that 20 barrels a day is a big looser.

- Q. What are some of the costs involved in these wells?
- A. Two factors lead to big costs in these wells. The gas is very sour and requires treating before it can be sold. The sour gas causes corrosion and operational problems. The other factor is that the wells produce lots of water and the water requires big casing when you drill the wells. It requires submersible pumps to lift all the fluid, and requires an extensive water disposal system and associated costs to dispose of that water.
- Q. Now, if I could ask you to identify Exhibit 9 in this case and ask you to describe its contents, please?
- A. Exhibit 9 is similar to Exhibit 8, but it lists the water cut of that same group of wells in the Dagger Draw Upper Penn North, and is my attempt to give you an idea of how much water these wells make. Most of the water cuts are in the 85 to 95 percent range. The wells offsetting the Clifford location make the 93 percent water, 93 percent water, 57 percent water in that real good well, and 89 percent water. Just an attempt to give you an idea of the kind of water that we're producing, so that a kind of

typical well is 100 barrels of oil a day and 1000 barrels of water a day and sour gas.

The operating costs are typically \$30,000 a month a well. You're spending on the order of \$10,000 a month on electricity for a submersible pump. You're spending on the order of \$10,000 a month for water disposal. You've got two to three percent H2S in this gas, and severe corrosion, so you're replacing pumps and cables and tubing and well heads and that sort of thing. It's not a typical kind of operation. You need, like I say, you need a 100-barrel-a-day well to be in the range of economic.

My point is kind of that there's what I call a system risk. You've got to install all this expensive system to handle these unwanted products to get at the oil and the salable gas.

- Q. Now, if I could ask you to identify
 Applicant's Exhibit 10 in this case and review that
 for the Examiner, please?
- A. Applicant's Exhibit 10 is a map of the area on which has been drawn the water gathering lines that Yates has installed and the gas gathering lines that Yates has installed.

Yates has installed approximately 25 miles of gas gathering lines for this Dagger Draw project,

and there are about 15 miles of water lines that have been installed as a part of this project. Yates had some operations in this area, so not exactly everything in this map is brand-new, but most of it is brand-new to this project, and there have been some expensive additions up to the northeast where our original shallow production and our shallow gathering system was.

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The gas goes two places. It goes to a Transwestern sweetening plant, which is in Section 26 of 18/25, about an inch from the top and two or three inches from the right-hand side. There's a Transwestern sweetening plant with a capacity of 7,000,000 cubic feet per day. The gas goes there and is sweetened and is sold. As this field has developed, that plant is totally inadequate. permits in to build a 20,000,000 cubic feet per day plant that would be located at the same site. We've been working on the permits for a year, so it's moving along slowly. Our other outlet is we have built a pipeline from that location in Section 26, five miles east, over towards the little town of Dayton. an 8-inch steel pipeline, special metallurgy to handle the H2S. We had the pipe specially made and specially welded, all that stuff.

The point there, it takes gas that the TW plant cannot handle, compresses it over to a sour gas line operated by Northern Natural, which moves the gas 80 miles east to Hobbs, where it is sweetened. We've installed gas gathering facilities which are now handling about 19,000,000 cubic feet a day of sour gas.

On the water disposal, we have developed for this project four water disposal wells, and they're indicated by black dots on the figure 10. There's one in 21 of 19/25, and one in 36 of 19/24, and two are down there in 20/24. Those wells have all been developed specifically to handle this water, and they're handling about 10- to 12,000 barrels of water a day. Some of the water goes all the way across this map to the northeast over to Dayton, where we have another disposal well, an older disposal well.

- Q. Now, if I could ask you to refer to Exhibit ll and review the information contained in that exhibit?
- A. Exhibit 11 simply says that we have spent \$6 million developing gas and water lines to handle the developments in Dagger Draw. \$1.5 million of that has gone for the water disposal system and \$4.5 million for the gas gathering system.

In addition to Exhibit 11, we are beginning construction of a 12-mile gas gathering line that's listed as proposed on Exhibit 10. That's going to cost another \$1.5 million. So, the \$6 million includes no well costs, and we're in the process of spending another \$1.5 million now, and we're going ahead with this sweetening plant down the road et cetera.

There's a lot of money being risked, is what I'm saying, on this development which you're calling a development program, but these wells have got to produce oil and gas in acceptable quantities to pay out this big-time investment we've been making in Dagger Draw.

- Q. If I could digress just a minute and ask you if you had reviewed Applicant's Exhibit 5 in this case, the AFE?
- A. Yes, sir, I have seen that, and I have looked that over in some detail.
- Q. Are the costs shown on that AFE comparable to the costs of other Canyon wells drilled in the area by Yates Petroleum Corporation?
- A. Those costs are very similar to the costs of other wells that we have drilled in this area, and they're in line with the costs charged by other

operators, and are perhaps a little smaller.

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- Q. In your opinion, are those reasonable and necessary costs for the drilling of this well?
- A. Yes, sir, those are reasonable costs for the drilling of this well. The big cost is that seven-inch casing that has to be installed to total depth in order to have big enough tubulars to lift all the fluids.
- Q. Dr. Boneau, based upon your testimony and review of the exhibits and the fact that so much water is produced with this oil and so much sour gas, and the amount of production that's required to make an economic well, do you have a recommendation as to the risk factor penalty to be ordered in this case?
- A. My recommendation is that the risk factor penalty be the 200 percent.
- Q. And, in your opinion, will the granting of this application be in the interest of conservation of oil and gas, the prevention of waste and the protection of correlative rights?
 - A. Yes, sir.
- Q. Were Exhibits 8 through 11 prepared by you or under your direction and supervision?
- 24 A. Yes, sir, they were.
- MR. VANDIVER: Mr. Examiner, I would move

the admission of Applicant's Exhibits 8 through 11 and I have no further questions of this witness. EXAMINER CATANACH: Exhibits 8 through 11 will be admitted as evidence. I have no questions of the witness. He may be excused. Is there anything further in this case? MR. VANDIVER: That concludes my presentation in this case, Mr. Examiner. EXAMINER CATANACH: Case 9846 will be taken under advisement. Let's take about a 10-minute break.

1	CERTIFICATE OF REPORTER
2	
3	STATE OF NEW MEXICO)
4) ss. COUNTY OF SANTA FE)
5	
6	I, Carla Diane Rodriguez, Certified
7	Shorthand Reporter and Notary Public, HEREBY CERTIFY
8	that the foregoing transcript of proceedings before
9	the Oil Conservation Division was reported by me; that
10	I caused my notes to be transcribed under my personal
11	supervision; and that the foregoing is a true and
12	accurate record of the proceedings.
13	I FURTHER CERTIFY that I am not a relative
14	or employee of any of the parties or attorneys
15	involved in this matter and that I have no personal
16	interest in the final disposition of this matter.
17	WITNESS MY HAND AND SEAL February 24, 1990.
18	alla Diana Loderina
19	CARLA DIANE RODRIGUEZ CSR No. 91
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21	My commission expires: May 25, 1991
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