

1 STATE OF NEW MEXICO  
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
3 OIL CONSERVATION DIVISION  
4 STATE LAND OFFICE BUILDING  
5 SANTA FE, NEW MEXICO

6 21 June 1989

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of Yates Petroleum Corp- CASE  
10 oration for a unit agreement, Lea 9690  
11 County, New Mexico.

12 BEFORE: David R. Catanach, Examiner  
13

14  
15 TRANSCRIPT OF HEARING  
16

17 A P P E A R A N C E S  
18

19 For the Division: Robert G. Stovall  
20 Attorney at Law  
21 Legal Counsel to the Division  
State Land Office Building  
Santa Fe, New Mexico

22 For Yates Petroleum David R. Vandiver  
23 Corporation: Attorney at Law  
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## I N D E X

## CY COWAN

Direct Examination by Mr. Vandiver 4

## STERLING FLY

Direct Examination by Mr. Vandiver 12

Cross Examination by Mr. Catanach 18

## E X H I B I T S

Yates Petroleum Exhibit One, Land Plat 5

Yates Petroleum Exhibit Two, Unit Agreement 5

Yates Petroleum Exhibit Three, Operating Agreement 7

Yates Petroleum Exhibit Four, Letter 9

Yates Petroleum Exhibit Five, Letter 10

Yates Petroleum Exhibit Six, AFE 11

Yates Petroleum Exhibit Seven, Structural Map 13

Yates Petroleum Exhibit Eight, Isolith 14

Yates Petroleum Exhibit Nine, Cross Section 15

1 MR. CATANACH: Okay, at this  
2 time we'll call Case 9690.

3 The application of Yates  
4 Petroleum Corporation for a unit agreement, Lea County, New  
5 Mexico.

6 Appearances in this case.

7 MR. VANDIVER: Mr. Examiner,  
8 I'm David Vandiver of Artesia, New Mexico, appearing on  
9 behalf of the applicant, Yates Petroleum Corporation, and I  
10 have two witnesses in this case.

11 MR. CATANACH: Are there any  
12 other appearances?

13 Will the witnesses please  
14 stand and be sworn in?

15

16 (Witnesses sworn.)

17

18 MR. VANDIVER: May I proceed,  
19 Mr. Examiner?

20 MR. CATANACH: Yes, sir.

21

22 CY COWAN,  
23 being called as a witness and being duly sworn upon his  
24 oath, testified as follows, to-wit:

25

## 1 DIRECT EXAMINATION

2 BY MR. VANDIVER:

3 Q State your name, your occupation, and by  
4 whom you're employed, please, sir.5 A My name is Cy Cowan. I'm employed by  
6 Yates Petroleum Corporation as an associate landman.

7 Q And how long have you been so employed?

8 A For one year.

9 Q You've previously testified before the  
10 Oil Conservation Division this morning as a landman and had  
11 your qualifications accepted and your qualifications are a  
12 matter of record, is that correct?

13 A Yes.

14 Q Are you familiar with the title to  
15 the land proposed to be committed to the proposed Drover  
16 State unit agreement?

17 A Yes.

18 MR. VANDIVER: Mr. Examiner,  
19 are the witnesses qualifications acceptable?

20 MR. CATANACH They are.

21 Q What's the purpose of Yates Petroleum  
22 Corporation's application in Case Number 9690?23 A Yates Petroleum Corporation is seeking  
24 approval of the Drover State Unit comprising 4800 acres,  
25 more or less, all of state lands in portions of Township 13

1 South, Range 32 East in Lea County, New Mexico.

2 Q If I could refer you to Applicant's  
3 Exhibit One in this case and ask you to describe what that  
4 depicts.

5 A Exhibit One is a land plat outlining the  
6 proposed unit in yellow and it also shows the proposed well  
7 site at 990 from the -- 990 feet from the south line and  
8 east line of Section 20, Township 13 South, Range 32 East.

9 Q Does Exhibit One correctly describe the  
10 lands in the unit as proposed at this time?

11 A No, it doesn't. We were asked by the  
12 State to take out 80 acres comprising of the north half of  
13 the southeast of Section 18, Township 13 South, Range 32  
14 East.

15 Q What is the objective formation of your  
16 proposed well?

17 A This is going to be a Mississippian test  
18 with the primary objective as the Atoka formation.

19 Q Now, Mr. Cowan, if I could refer you to  
20 the Applicant's Exhibit Two, which is the proposed unit  
21 agreement, and ask you to describe that, please, sir.

22 A Exhibit Two is the unit agreement for  
23 the Drover State Unit in Eddy County, New -- excuse me, Lea  
24 County, New Mexico, and it's dated April 21st, 1989. It is  
25 a standard State of New Mexico unit form. It describes

1 the unit area. It describes the -- on page two it de-  
2 scribes the unit area and also the unitized substances,  
3 which will be all oil and gas, natural gasoline and asso-  
4 ciated fluid hydrocarbons in any and all formations of the  
5 unitized lands, and are unitized under the terms of this  
6 agreement and (unclear) all unitized substances.

7 Paragraph 3 describes the unit operator  
8 as Yates Petroleum Corporation.

9 Q And the land description contained on  
10 page 2 will need to be revised by deleting the north half  
11 southeast quarter Section 19, correct, sir?

12 A Yes, sir.

13 Q And if I could refer you to Exhibit A of  
14 the unit agreement and ask you to describe the information  
15 contained in that Exhibit A.

16 A Exhibit A is a plat showing the township  
17 and range of the proposed unit, an outline of the unit,  
18 tract numbers, lease record title holders, serial numbers  
19 of the lease, and expiration dates of the leases, and this  
20 unit has an 8-1-89 -- the Federal lease is expiring then,  
21 8-1-89.

22 Q And so you'd request that if possible an  
23 order be entered approving the proposed unit prior to that  
24 date, since Yates will need to be drilling on that date,  
25 correct?

1           A           Yes, sir.

2           Q           And again, Exhibit A will need to be  
3 revised to delete Tract Number 5, is that correct?

4           A           Yes, sir.

5           Q           Which is north half southeast quarter of  
6 Section 18.

7                       Now if I could refer you to Exhibit B to  
8 the unit agreement and ask you to summarize the informa-  
9 tion contained in that exhibit.

10          A           Exhibit B is to the unit operating  
11 agreement -- to the unit agreement for the Drover State  
12 Unit, describes the townships, ranges, sections contained  
13 in the unit; the number of acres per lease, serial number  
14 and expiration and dates of the leases; basic royalty  
15 owners and their percentages; lessee of records; overriding  
16 royalty owners and working interest owner and percentages,  
17 and also Exhibit B will have to be fixed to delete Tract  
18 Number Five in the north half of the southeast of Section  
19 18, 13, 32.

20          Q           Are there any unleased tracts proposed  
21 to be committed to the unit agreement?

22          A           No, sir.

23          Q           Now if I could refer you to the Appli-  
24 cant's Exhibit Three and ask you to describe the unit  
25 operating agreement.

1           A           Exhibit Three is AAPL Form 610, dated  
2 1977, Model Form Operating Agreement for the Drover State  
3 Unit. It is dated April 21st, 1989. It designates Yates  
4 Petroleum Corporation as the operator of the unit in Lea  
5 County, New Mexico.

6           Q           And page 4, Article VI, contains the  
7 location of your first unit well?

8           A           Yes, sir. The first unit well will be  
9 990 feet from the south line and 990 feet from the east  
10 line in Section 20, Township 13 South, Range 32 East, a  
11 11,500 foot Atoka well.

12          Q           Then if I could refer you to Exhibit A  
13 to the unit operating agreement and summarize the informa-  
14 tion contained in that exhibit to the operating agreement.

15          A           Operating -- Exhibit A shows the working  
16 interest owners, the number of acres they have, percentage  
17 of their acres in the unit, and their before payout working  
18 interest and after payout working interest and then subse-  
19 quent wells working interest.

20          Q           Could you tell the examiner the status  
21 of joinder of the parties -- I mean leasehold interests  
22 within the unit area?

23          A           At this time 81.147547 percent of  
24 working interest owners have been committed to the unit and  
25 I've got 18.8 percent that are outstanding at this time.

1 Q Do you have any commitments from any of  
2 the other parties to join in the unit agreement?

3 A I've had several say that their inter-  
4 ests are so small that they might not join.

5 Several have said they may be inter-  
6 ested in selling us our units.

7 Others, Mobil, for example, needs more  
8 time to look at the proposal,

9 Woods Petroleum Corporation has made us  
10 a farmout offer that we are reviewing at this time.

11 Q So with the exception of Yates Petroleum  
12 Corporation, Yates Drilling Corporation, Abo Petroleum  
13 Corporation and MYCO Industries, Inc., none of the other  
14 parties owning working interests in this unit area have  
15 committed to join the unit, is that correct?

16 A That is correct.

17 Q But you expect to have sufficient  
18 control shortly.

19 A Yes, sir.

20 Q Now if I could refer you to Applicant's  
21 Exhibit Four and ask you to describe what that is, please.

22 A Exhibit Four is a letter dated June  
23 8th, 1989, to the Commissioner of Public Lands, asking them  
24 for preliminary approval of the Drover State Unit and in-  
25 forming them that we have State leases that are expiring

1 August 1st, 1989, and we'd like to have the approval by  
2 that time.

3 And there is a correction to this  
4 letter. It says one lease expires July 1st, 1989. That is  
5 incorrect. It should be August 1st, 1989.

6 Q All right. Have you, has Yates Drilling  
7 Corporation visited with the personnel in the office of the  
8 Commissioner of Public Lands and determined the status of  
9 preliminary approval of this unit agreement?

10 A Yes, we had a representative meet with  
11 the State and they (unclear) this morning if we're to  
12 delete the 80 acres previously mentioned, that they will  
13 give us approval for this unit.

14 Q Now if I could refer you to Applicant's  
15 Exhibit Five and ask you to describe that, please.

16 A Exhibit Five is a letter dated May 1st,  
17 1989, to the working interest owners from Yates Petroleum  
18 Corporation, regarding the Drover State Unit in Township 13  
19 South, Range 32 East, Lea County, New Mexico, and it is in-  
20 forming them of our wants to put together a unit. It de-  
21 scribes the location of our well and gives them an Author-  
22 ity for Expenditure, and we ask them to join and drill with  
23 us.

24 Q And if I could refer you to Yates Exhi-  
25 bit Six and ask you to describe what that is, please.

1           A           Exhibit Six is an Authority for Expen-  
2   diture for the Drover State Unit and it outlines the cost  
3   for dry hole and completed well at 11,500 feet, and it  
4   gives a breakdown of the working interest owners and their  
5   percentage of working interest and these people -- these  
6   corporations are Yates Petroleum Corporation, Abo Petro-  
7   leum Corporation, Yates Drilling and MYCO Industries,  
8   Chevron, (unclear) Energy Corporation, Frazier & Ray Oil &  
9   Gas Corporation, Mobil Exploration and Producing and Woods  
10  Petroleum Corporation.

11           Q           Mr. Cowan, were Exhibits One, Two,  
12  Three, Four, Five and Six in this case prepared by you or  
13  under your direction or supervision or by -- or have you  
14  examined them and are you familiar with their contents?

15           A           Yes, I have.

16                           MR. VANDIVER: Mr. Examiner,  
17  I'd move the admission of Plaintiff's Exhibits One through  
18  Six at this time and I have no further questions of Mr.  
19  Cowan in this case.

20                           MR. CATANACH: Exhibits One  
21  through Six will be admitted as evidence.

22                           I would request, Mr. Vandiver,  
23  that once you get preliminary written approval from the  
24  State that you submit that to us, as well.

25                           MR. VANDIVER: Yes, sir.

1 May this witness be excused?

2 MR. CATANACH: Yes.

3 MR. VANDIVER: May I proceed?

4 MR. CATANACH: Yes.

5

6 STERLING FLY,

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

9

10 DIRECT EXAMINATION

11 BY MR. VANDIVER:

12 Q Please state your name, your occupation  
13 and by whom you're employed.

14 A My name is Sterling Fly. I'm a petro-  
15 leum geologist with Yates Petroleum Corporation.

16 Q How long have you been employed by Yates  
17 Petroleum Corporation?

18 A Approximately 11 months.

19 Q Have you previously testified before the  
20 Oil Conservation Division and made your qualifications a  
21 matter of record and have your qualifications as a geolo-  
22 gist been accepted by the Division?

23 A Yes.

24 Q Have you made a study of the available  
25 geologic data with regard to the proposed Drover State unit

1 agreement and are you familiar with that data?

2 A Yes.

3 Q And the basis upon which the Drover  
4 State unit agreement is being formed?

5 A Yes.

6 MR. VANDIVER: Mr. Examiner,  
7 are the witness' qualifications acceptable?

8 MR. CATANACH: They are.

9 Q Mr. Fly, if I could refer you to Appli-  
10 cant's Exhibit Seven in this case and ask you to describe  
11 what that is, please, sir.

12 A Exhibit Seven is a structural map;  
13 structure horizon is top of the Morrow limestone. Datum  
14 points are indicated by negative structural datum next to  
15 certain wells. For example, the well in Section 20, -6774.  
16 The example datum is -6774.

17 Also, I'd like to point out the wells  
18 that have triangles around the well symbols. Those repre-  
19 sent production from the -- from our primary objective,  
20 which is the Atoka formation; thin sandstones near the  
21 bottom of the Atoka formation so that the structure hori-  
22 zon on the Morrow is just beneath the pay sands.

23 The structure map shows for the most  
24 part a southeasterly regional dip, which is -- which also  
25 features Devonian structural trends running north/south.

1                   Our primary -- as I said, the primary  
2 objective is the Atoka formation, which is a stratigraphic  
3 play. Our proposed location at 990 from -- 990 feet from  
4 south and east lines of Section 20 was chosen because of  
5 the presence of a -- of a seismic anomaly, so as to en-  
6 hance the well's potential.

7                   Q           Do you have anything further with re-  
8 gard to Exhibit Seven?

9                   A           I just might add that favorable -- we  
10 may continue to Devonian if we encounter favorable struc-  
11 ture during drilling.

12                  Q           Now if I could refer you to Yates  
13 Drilling Corporation Exhibit Number Eight in this case and  
14 ask you to identify it and describe the information con-  
15 tained in that exhibit.

16                  A           Exhibit Eight is a net sandstone isolith  
17 of the Lower Atoka interval.

18                               The values represented here as a result  
19 of our cumulative addition of -- of the sands in the Atoka,  
20 not necessarily one particular sandstone because the sands  
21 are very thin.

22                               Off on the southwest corner of the map  
23 area, note in Section 31 there's a value, 50 feet of sand.  
24 That -- that would represent a fluvial channel, which pro-  
25 vided a clastic source for the Atoka Clastics. As the

1 clastics, or the sands reached the shoreline, they would  
2 then be reworked by wave processes in a series of shore  
3 parallel bars, such as beaches, offshore marine bars, or  
4 barrier islands.

5 So the indicated shoreline direction is  
6 northeast/southwest and so the map was contoured indicating  
7 that -- that sand bars were present during the Atoka at  
8 this time.

9 This situation gives rise to strati-  
10 graphic entrapment of hydrocarbons as individual sandstones  
11 are pinched out and the hydrocarbons trapped against the --  
12 the shales surrounding the sandstone.

13 So that's the case that we see there  
14 from the wells in Section 10 and 16, indicated by the  
15 triangles and the wells in 19 and 17. The well in --  
16 there's a well in the northeast quarter of Section 27 which  
17 is similar but it -- it proved to produce more gas than  
18 oil. It was completed as a gas well, but we anticipate an  
19 oil completion.

20 Q And is the trace of the cross section  
21 contained in Exhibit Nine shown on your -- shown on Exhibit  
22 Eight?

23 A Yes, it is. The cross section, Exhibit  
24 Nine, shown as an east -- is essentially an east/west cross  
25 section, extending from Section 19 on the west end through

1 the well in Section 20. The cross section has a -- just a  
2 vertical line representing Yates' proposed location.

3           Next, the next location is in Section 29  
4 on across to the northwest quarter of 27 and ending with  
5 the northeast quarter of Section 27. The cross section  
6 demonstrates the very thin nature of the sandstones in the  
7 Atoka formation and also the lack of persistent character  
8 in the sandstone from one well to the next. In other  
9 words, difficult correlation, difficult to establish cor-  
10 relation from one well to the next.

11           Notice, if you will, on the cross  
12 sections, the key down at the bottom indicates a blackened  
13 bar area on the log and so the orange -- orange areas of  
14 the sandstone, representing the producing zones for three  
15 of the wells which are productive.

16           I just want to point out that the sands,  
17 the productive intervals are all noncorrelative through  
18 this, indicating a stratigraphic entrapment.

19           Q           What conclusions do you draw from the  
20 information contained in Exhibits Seven, Eight and Nine,  
21 Mr. Fly?

22           A           The -- the Atoka formation -- our  
23 primary conclusion is that the Atoka formation is produc-  
24 tive in stratigraphic traps, which are oriented in a north-  
25 east to southwest orientation and that the sands are thin

1 and encountering a series of sands, any of these sands  
2 could be -- has potential to be productive. This produc-  
3 tion is not from one particular sandstone.

4 Q And as I understand, you have met with  
5 personnel of the -- in the office of the Commissioner of  
6 Public Lands and they have indicated to you verbally that  
7 they propose to give you preliminary approval of the pro-  
8 posed unit agreement, subject to your deletion of Tract 5  
9 of the unit agreement, north half southeast quarter of  
10 Section 18.

11 A Yes, that was the agreement we made.

12 Q Mr. Fly, were Exhibits Seven, Eight and  
13 Nine prepared by you or under your direction or super-  
14 vision?

15 A Yes, they were.

16 Q And in your opinion will approval of  
17 this application be in the interest of conservation, the  
18 prevention of waste, and the protection of correlative  
19 rights?

20 A Yes.

21 MR. VANDIVER: Mr. Examiner, I  
22 would move the admission at this time of Yates Drilling  
23 Corporation's Exhibits Seven, Eight and Nine, and I have no  
24 further questions of this witness.

25 MR. CATANACH: Exhibits Seven,

1 Eight and Nine will be admitted as evidence.

2  
3 CROSS EXAMINATION

4 BY MR. CATANACH:

5 Q Mr. Fly, how many Atoka wells have been  
6 drilled within the unit area itself?

7 A There have been, looks like two Atoka  
8 completions and a total of five Atoka penetrations.

9 Q And of those wells, how many were pro-  
10 ductive?

11 A Two. Both are P&A'd.

12 Q Both are currently P&A'd?

13 A Yes.

14 MR. CATANACH: That's all I  
15 have of the witness.

16 He may be excused.

17 Is there anything further in  
18 this case?

19 MR. VANDIVER: No, sir.

20 MR. CATANACH: If not, Case  
21 9690 will be taken under advisement.

22  
23 (Hearing concluded.)  
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C E R T I F I C A T E

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

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9690, heard by me on June 21 1988.

David R. Catant, Examiner  
Oil Conservation Division