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 YATES PETROLEUM CORPORATION FOR A UNIT AGREEMENT, LEA COUNTY, NEW MEXICO

CASE NO. 11,652

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

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.

* * *

I N D E X

November 21st, 1996
Examiner Hearing
CASE NO. 11,652

	PAGE
APPEARANCES	3
APPLICANT'S WITNESSES:	
MECCA MAURITSEN (Landman)	
Direct Examination by Mr. Carr	5
Examination by Examiner Catanach	8
JOHN R. McRAE (Geologist)	
Direct Examination by Mr. Carr	10
Examination by Examiner Catanach	17
REPORTER'S CERTIFICATE	21

* * *

E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	6	8
Exhibit 2	12	17
Exhibit 3	13	17
Exhibit 4	14	17
Exhibit 5	15	17
Exhibit 6	16	17
Exhibit 7	16	17

* * *

A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
2040 South Pacheco
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE and SHERIDAN, P.A.
Suite 1 - 110 N. Guadalupe
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 8:18 a.m.:

EXAMINER CATANACH: At this time we'll call first case, 11,652.

MR. CARROLL: Application of Yates Petroleum Corporation for a unit agreement, Lea County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan.

I represent Yates Petroleum Corporation in this matter.

I have two witnesses.

EXAMINER CATANACH: Are there any other appearances in this case?

Okay, will the witnesses please stand and be sworn in at this time?

(Thereupon, the witnesses were sworn.)

MR. CARR: May it please the Examiner, at this time we call Mecca Mauritsen.

MECCA MAURITSEN,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Mecca Mauritsen.

Q. Where do you reside?

A. Artesia, New Mexico.

Q. Ms. Mauritsen, by whom are you employed?

A. Yates Petroleum Corporation.

Q. And what is your current position with Yates?

A. I'm a landman.

Q. Have you previously testified before this Division and had your credentials as a petroleum landman accepted and made a matter of record?

A. Yes, I have.

Q. Are you familiar with the Application filed in this case on behalf of Yates Corporation?

A. Yes, I am.

Q. Are you familiar with the proposed Trick State Unit?

A. Yes.

Q. Are the witness's qualifications acceptable?

EXAMINER CATANACH: Yes, they are.

Q. (By Mr. Carr) Could you briefly summarize for the Examiner what it is Yates seeks in this case?

A. Okay, we're seeking approval of the Trick State Unit, comprising approximately 6380 acres of state and fee lands in Township 22 South, 34 East, and 22-35, Lea County, New Mexico.

Q. Let's turn to what has been marked as Yates Exhibit Number 1. Would you identify and review this for Mr. Catanach?

A. This is our proposed unit agreement. It's on a state/fee form for exploratory units.

Q. Would you turn to Exhibit A -- there's a tab that indicates where that can be found -- Exhibit A to the unit agreement, identify this and review it?

A. Exhibit A is our plat showing all the leases in the unit outline. The unit outline is the rose-colored line, and the green leases are state leases, the gray lease is one 40-acre tract of fee lands.

Q. We're dealing with 17 state leases and one fee lease?

A. That's correct.

Q. And the ownership breakdown and percentages are set forth on this exhibit?

A. Yes, it is.

Q. Let's go to what has been marked as Exhibit B.

Will you review that, please?

A. Exhibit B is the description of all the leases, the terms of the leases, the royalty ownership, the working interest ownership and all overriding ownership.

Q. What percentage of the working interest ownership has been voluntarily committed to this unit plan?

A. 86 percent.

Q. Will that give Yates effective control of unit operations?

A. Yes, it will.

Q. Have you reviewed this proposed unit with the State Land Office?

A. Yes, I have.

Q. And what is the status of the Commissioner's approval of this Application?

A. They have given us verbal approval. As of yesterday afternoon they were unable to get the letter to us. Pete Martinez has been out and the letter should be out this afternoon or in the morning, and we will have it delivered to you.

Q. Yates desires to be designated unit operator?

A. Yes.

Q. Does this agreement provide for the periodic filing of plans of development?

A. Yes, it does.

Q. Will they be filed with the Oil Conservation Division at the time they are filed with other agencies?

A. Yes, they will be.

Q. And how often are they to be filed?

A. Six months after the commercial well has been -- the well has been determined commercial, we will file a plan, and then every 12 months after that.

Q. Is Yates also going to call a geological witness to review that portion of this Application?

A. Yes, we are.

Q. Was Exhibit 1 prepared by you?

A. Yes, it was.

MR. CARR: At this time, Mr. Catanach, we move the admission into evidence of Yates Petroleum Corporation Exhibit Number 1.

EXAMINER CATANACH: Exhibit Number 1 will be admitted as evidence.

MR. CARR: And that concludes my direct examination of Ms. Mauritsen.

EXAMINATION

BY EXAMINER CATANACH:

Q. Ms. Mauritsen, the ad for this case stated the unit was going to be about 7000 acres. Did you contract that?

A. Yes, the State Land Office asked us to take out,

if you can look at the map, the north half of Section 16, which has a producing well on it. We included it when we proposed it because of the geology. And then the northwest quarter of Section 30 and the southwest quarter of Section 29 were the open state lands, but due to geology we included them, and they asked us to take all those tracts out.

Q. I'm sorry, again, the north half of 16 and what else?

A. The northwest quarter of Section 30 and the southwest quarter of Section 29.

Q. Who is not committed to the unit at this point?

A. Okay, Chevron has said they will not join at all. MYD, Inc., and Tenneco Gas have not given us a final decision yet. Southwest Energy Production Company, we don't have a final decision from, or Amerada Hess.

Ray Westall, one of the mineral owners of the tracts, has committed. The other three have not.

Q. This unit agreement is for all depths?

A. Yes, it is.

Q. The Land Office said they would be giving you a letter today or tomorrow?

A. Late this afternoon or in the morning, yes.

Q. Okay, and you will submit that?

A. Yes, we will.

Q. The fee lease, that's currently unleased, is it?
A. Yes, it is, it's unleased.
Q. Are you attempting to lease that acreage?
A. Yes, we are.
Like I said, we've had one owner go ahead and join and would like to participate, but we are trying to lease the other.
EXAMINER CATANACH: Okay, I have nothing further.
MR. CARR: Okay, at this time we would call John McRae.

JOHN R. McRAE,

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

DIRECT EXAMINATION

BY MR. CARR:
Q. Could you state your full name for the record?
A. John Robert McRae.
Q. And where do you reside?
A. Artesia, New Mexico.
Q. By whom are you employed?
A. Yates Petroleum.
Q. Mr. McRae, what is your current position with Yates?
A. I'm a senior geologist.
Q. Have you previously testified before this

Division?

A. Yes, I have.

Q. At the time of that testimony, were your credentials as an expert in petroleum geology accepted and made a matter of record?

A. They were.

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

A. Yes.

Q. Have you made a geological study of the area surrounding the proposed Trick State Unit?

A. Yes, I have.

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

EXAMINER CATANACH: Yes, they are.

Q. (By Mr. Carr) Now, Mr. McRae, all formations are being unitized in this plan; is that right?

A. That's correct.

Q. What is the primary objective in the unit?

A. The Bone Spring formation.

Q. And is it within a defined Bone Spring pool?

A. No, it is not.

Q. Are there secondary objectives?

A. The Delaware sands, the Wolfcamp and the Morrow are secondary objectives in this area.

Q. Let's go to what has been marked as Yates Exhibit Number 2. Would you identify and review that, please?

A. Exhibit 2 is a structure map on top of the Bone Spring formation. I've included a legend on the left-hand bottom.

The wells that are uncircled are wells that are less than 6000 feet in depth. The circled wells are greater than 6000 feet and have penetrated the Bone Spring formation. I've color-coded all the production.

It also shows the unit outline. Wells in Section 9, 17, 19 and 20 that are within the unit are less than 6000 feet. They're Yates-Seven Rivers tests. They were all dryholes, and they did not penetrate the objective formation.

This map also shows a cross-section A-A' that we'll discuss later.

The geology on this structure map shows dip, generally from the northeast to the southwest, with a structural nose in the vicinity of this -- the proposed Trick State Unit.

Q. Was this exhibit prepared from well-control information?

A. Just well control.

Q. No seismic was utilized?

A. No, none.

Q. Let's go to Yates Exhibit Number 3. Can you identify and review that, please?

A. Exhibit Number 3 is an isopach of what I've referred to in this area as the second sand/shale sequence. That will be shown more clearly on the cross-section. I've used 14-percent density cutoff.

As you can see, there's a sand thick at the location of the Trick State Unit. This thick is interpreted as a turbidite fan complex with the sediment source from the north.

This was deposited in a structural low in Bone Spring time. That low was controlled by the Central Basin Platform on the east and the Grama Ridge/Antelope Ridge structural fault block on the west.

I've noted the economic limits of approximately 25 feet. Our work in the upper Bone Springs sands in this part of the Basin have shown that 14-percent porosity, greater than 14-percent porosity and 25 feet of sand is the absolute minimum for economic production. So that's our economic limits.

Q. On this exhibit, we again have a trace for the cross-section; is that right?

A. That's correct.

Q. All right, let's go to that cross-section, now, Yates Exhibit Number 4, and I'd ask you to review that for

the Examiner.

A. Exhibit Number 4 is a structural -- I'm sorry, a stratigraphic cross-section, A-A', as noted on the structure map and on the isopach. I've hung this cross-section on the top of the Bone Spring formation, and we'll just start at the top and we'll go down. I'll show you the different sequences.

The top part is the Bone Spring carbonate, and then you go through what I've referred to as the first sand-shale sequence and then the second carbonate. And in this part of the Basin I've noted the second sand-shale sequence, which is the primary objective. And then you go into another carbonate, described as the third carbonate.

This cross-section shows that Wells 2, 3 and 4 are thicker than Wells 1 and 2, showing the depositional low in this part of Bone Spring time. The key well is Well Number 4, and I've noted 14-percent porosity cutoff and the sand thickness.

I'd like to point out that Wells Number 2 and 3, as you approach the edge of this fan complex, show two prominent sand fingers, and as you -- generally in these turbidite fan complexes, as you approach the edge, it begins to interfinger into the shales and carbonates surrounding it.

Q. And basically this shows a thick under the

proposed unit area; is that right?

A. Yes, it does.

Q. All right. Let's move now to Exhibit Number 5. That's a log on the key well; is that correct?

A. That's correct.

Q. And the location of that well is shown on Exhibits 2 and 3?

A. Right, that's Well Number 4 on the cross-section, and it's located in the north half of Section 16.

Q. All right. Let's review this log section.

A. What I've put on here is, on the left-hand side, is the dual lateral log. On the right-hand side is the compensated neutron formation density log. I've noted the second carbonate, which the same as on the cross-section.

I've also color-coded the porosity greater than 14 percent, and we've included log calculations. What this shows is low water saturations. The rock is saturated, based on the log calculations. The dual lateral log shows significant separation between the shallow and the deep curves, also indicating permeability.

Q. So looking at this log, we have an interval that should potentially be oil-productive?

A. That's correct.

Q. All right. Let's go to the next exhibit, Exhibit Number 6. Could you identify and review that?

A. Exhibit 6 is Well Number 3 on the cross-section. It also shows the second carbonate, and I've included the log calculations on the sand right below it.

It also shows porosity up to 20 percent, with low water saturations, also showing that the rock should be oil-saturated. And the lateral log shows separation between the shallow and the deep, also indicating permeability.

Q. Is Exhibit Number 7 a summary of your geological presentation?

A. Yes, it is.

Q. And the initial test well in the unit is to be located where?

A. In the northeast quarter of Section 18, 22 South, 35 East.

Q. Can you generally summarize your conclusions?

A. My geological review shows that this area is favorable for hydrocarbon production in the first -- in the second sand-shale sequence in the upper portion of the Bone Spring formation.

Q. How soon does Yates need to drill the initial test well?

A. We'll spud the initial well prior to 12-1-96.

Q. Do you therefore request that the Order in this case be expedited to the extent possible?

A. Yes, we do.

Q. In your opinion, will approval of this Application and the development of the Bone Springs and other formations with this unit plan be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, I do.

Q. Were Exhibits 2 through 7 prepared by you or compiled at your direction?

A. Yes.

MR. CARR: Mr. Catanach, at this time we move the admission into evidence of Exhibits 2 through 7.

EXAMINER CATANACH: Exhibits 2 through 7 will be admitted as evidence.

MR. CARR: And that concludes my direct examination of Mr. McRae.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. McRae, what's the closest Bone Spring producing well we have in this area?

A. We have drilled and re-entered several wells in Township 21 South, 34 East, on the other side of the Grama Ridge/Antelope Ridge structural fault block, and we are producing oil from this sand sequence on the other side of this ridge. The exact distance, I'm not sure.

There was some production in Well Number 5, a very limited amount. It made a total of 650 barrels of oil, 451 barrels of water, and the perforations are noted on the cross-section.

Q. You're referring to the well in Section 28?

A. That's correct. It was not productive from this interval because the second sand-shale sequence is tight and thin, but a little -- small amount of hydrocarbon was produced from the carbonate sequence noted as the third carbonate.

Selected intervals were perforated, as noted on the log. It also shows on the log that that area was very tight.

Q. Did you just use well control to map this unit outline or to map the geologic feature here?

A. Yes, I did.

Q. What did you use to map the north and the south boundaries of the unit?

A. If you'll look at Exhibit 3, the isopach, Well Number 3 on the cross-section has 12 feet of 14-percent porosity, and as you go along the western edge of the unit, there's zeroes. There's some sand in Section 14, one well had 25 feet. That, and examination of the dual lateral log on that particular well shows very high resistivities, indicating that the permeability has been destroyed. So

there's been some diagenetic changes on the edge of this fan complex.

There's zero sand all through Section 23, 26, there's another small fan complex, or at least the north edge of it, in the south half of Section 26 and down into 35 and even a little bit in 36. Those are all currently producing from Morrow and Atoka zones, and this zone has not been tested to date. There were no DST tests run or production tests on that separate complex.

In Section 28, those two wells have three feet and eight feet of sand, respectively. There just appears to be a fan complex located in this low during Bone Spring time.

The key well has 55 feet of sand.

Q. The eastern boundary, the Central Basin Platform shelf edge, is that generally known, or is that something that you mapped also?

A. It's generally known, it's published on numerous maps. Geomap shows it clearly on their shallow- and medium-depth maps. I have seen some regional cross -- I'm sorry, regional seismic lines that show the approximate edge. So I've just followed the -- basically the published information.

Q. The 25 feet of being the economic limit, where did you get that from?

A. We have drilled quite a few wells for the Avalon sand, which is an upper Bone Springs sand. It would be located approximately 100 feet into the Bone Spring, and it would be towards the top of what's shown as the first sand-shale sequence on the cross-section.

We have found that wells that have less than 25 feet of 14-percent porosity are just uneconomic. That's not to say that wells at exactly 14-percent and exactly 25 are economic, but that's the absolute minimum. That's basically from experience.

Q. Mr. McRae, are you actually going to take any of these wells deeper than the Bone Spring?

A. The initial well will go to a minimum of the Wolfcamp. At this time we've not decided whether to go all the way to the Morrow or not, but we recognize there is potential in the deeper horizons.

EXAMINER CATANACH: Nothing further.

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

EXAMINER CATANACH: All right, there being nothing further, Case Number 11,652 will be taken under advisement.

(Thereupon, these proceedings were concluded at 8:41 a.m.)

* * *

CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL November 26th, 1996.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 11652.
Date November 21 96.
David R. Catanach
Examiner

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date NOVEMBER 21, 1996 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
[illegible]	[illegible]	[illegible]
William F. Carr	Campbell, Carr, Berge & Sheridan	Santa Fe
John McKee	Yates Pet	Artesia
Mecca Mannitson	Yates Pet	Artesia
Shane Gough	Maralo	Midland
Richard Gill	[illegible]	Midland
Steve Thomson	GECKO	Midland
[illegible]	ARCO	Midland
David Pearcy	ARCO	Midland
James Bruce	Hinkle Law Firm	SF
Dave Shatzer	Intercoast Oil & Gas	Midland
Daniel Roberts	SANTA FE ENERGY RESOURCES	MIDLAND
Gene Daniel	SFER	Midland, Tx
[illegible]	SFER	Midland
Nick Wavers	Southwestern Energy Prod Co	Okla City
Dale Shipley	"	"

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date NOVEMBER 21, 1996 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
John Thomas	PENWELL ENERGY	MIDLAND
C. Mark Wheeler	" "	"
Bill Pierce	" "	"