STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

18 November 1987

EXAMINER HEARING

IN THE MATTER OF:

Case 8970 being reopened pursuant to the provisions of Division Order No. R-8330, Lea County, New Mexico.	CASE 8970

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Jeff Taylor
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

MR. CATANACH: Call next Case 8970.

MR. TAYLOR: In the matter of Case 8970 being reopened pursuant to the provisions of Division Order No. R-8330, Lea County, New Mexico.

MR. CATANACH: I would like at this time read a portion of a letter received by the Division from Chad Dickerson on behalf of Yates Petroleum, who is the operator in this pool and the letter states that the well in the pool has stabilized at a gas/oil ratio in the range of 800 to 1200 cubic feet per barrel and that they have no objections to the gas/oil ratio going back to 2000-to-1 for this pool.

Is there anything, any additional testimony or appearances in this case at this time?

If not, it will be taken under advisement.

(Hearing concluded.)

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 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. 8970, heard by me on November 18 1987.

David R. Catanach, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

20 August 1986

EXAMINER HEARING

IN THE MATTER OF:

Application of Yates Petroleum Corporation for special pool rules, Lea County, New Mexico.	CASE 8970

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:	Jeff Taylor Attorney at Law Legal Counsel to the Division State Land Office Bldg. Santa Fe, New Mexico 87501
For Yates Petroleum:	Chad Dickerson Attorney at Law DICKERSON, FISK, & VANDIVER Seventh & Mahone/ Suite E Artesia, New Mexico 88210

I N D E X

E X H I B I T S

MR. CATANACH: Call next Case Number 8970.

MR. TAYLOR: The application of Yates Petroleum Corporation for special pool rules, Lea County, New Mexico.

MR. CATANACH: Are there appearances in this case?

MR. DICKERSON: Mr. Examiner, I'm Chad Dickerson of Artesia, New Mexico, appearing on behalf of Yates Petroleum Corporation, and I have one witness.

MR. CATANCH: Are there other appearances in this case?

(Witness sworn.)

DAVID BONEAU,

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

DIRECT EXAMINATION

BY MR. DICKERSON:

Q Mr. Boneau, will you state your name, your occupation, and by whom you're employed?

A I'm David Boneau. I work as an engineer-

ing manager for Yates Petroleum in Artesia, New Mexico.

Q And, Mr. Boneau, have you previously and recently qualified and testified as a petroleum engineer before this Division?

A Yes, sir.

Q And have you made a study of the available engineering and geological data upon which your opinions to be testified upon here today are based?

A Yes, sir.

MR. DICKERSON: We tender Mr. Boneau as an expert petroleum engineer, Mr. Examiner.

MR. CATANACH: Mr. Boneau is considered qualified.

Q Mr. Boneau, what is the purpose of Yates' application in this case?

A Yates' application in Case 8970 requests that the special pool rules for the newly formed Sanmal-Queen Pool include a maximum GOR of 5000 for a temporary period of twelve months.

MR. DICKERSON: Mr. Examiner, for your information, the nomenclature hearing on that -- on the establishment of those pool rules was held on August 6th and there has yet been no order entered is our information.

Q Mr. Boneau, refer to what we have submitted as Yates Exhibit Number one and tell the Examiner what

that document is.

A Exhibit One is a multi-page exhibit. It is an affidavit basically showing that Yates has given proof of notice to all operators of wells within one mile of the Sanmal-Queen Field. The Sanmal-Queen Field consists of the southeast quarter of Section One, Township 17 south, 33 East.

There are included are the certified receipts from the four people who operated wells.

Included in the exhibit is a list of the five wells that are operated within one mile of the Sanmal-Queen pool. These five wells all produce from the Vacuum Grayburg-San Andres Pool, which is deeper. There's a map on page, I think, four of the exhibit, which attempts to show where these wells are and where the pool is.

The pool is located, as I said, in the southeast quarter of Section 1 of 17, 33.

The five producers are all about almost a mile to the east of that in Section 6 and 7 of Township 17, 34. They're San Andres producers; we have notified those people of this hearing today.

Q Mr. Boneay, refer to what we're submitted as Exhibit Number Two and describe for the examiner the information that you have shown on that exhibit.

A Exhibit Number Two is a more clear map, I

think, showing the productive wells within the recently established Sanmal-Queen Field.

There are four wells to be considered to describe what's going on here.

The first well to the left up by the symbol "A" is the Texas Gulf State K No. 1. It was drilled in the 1950's and was cored in the Queen and it was a dry hole. The cores indicated that the Queen was very, very tight and nonporous, so that's the pinched out upper end of the Queen formation.

The second well is located in Unit J and it's called the Sweet Thing AEB State No. 1, drilled by Yates Petroleum this year. It produces from the Queen with no water. It's potential test taken in July showed 85 barrels of oil, 337 MCF of gas, and no water, with a GOR of 3965.

There's no evidence of a gas cap in the Sweet Thing Well and if there is a gas cap between this well and the tight up-dip well, it has to be very small.

The third well in the progression is the well in Unit I, labeled as the Hoover ADR State No. 1. It was drilled by Yates Petroleum, spudded in December of 1985, and completed in April of 1986. It produces from the Queen 48 barrels of oil per day and 496 barrels of water per day.

The water/oil contact in the Queen exists

at the perforations in this well, or the perforations in this well straddle the oil/water contact and it produces mainly water.

The last well to finish out the picture, is in Section 6. It's the H. L. Brown, Jr. State B No. 2, drilled in 1973. It was a deep dry hole. The logs for that well show the Queen to be very porous but wet, and if that well exists -- well, the logs show it's very porous and exists below the water/oil contact. There is actually no dualatero log on that well and so it's not right to say the logs show it's wet.

It's below the water/oil contact established by the Hoover.

So we have a picture pretty much like what Marathon described in the last case. We have no production to the west where the Queen is tight.

We have a well in the oil zone; we have a well in the transition zone that produces water and oil; and down dip we have a water aquifer.

Q And you have indicated your postulated oil/water contact by the dotted line in the southeast corner of Section 1.

A The dotted line in the southeast section of -- southeast part of Section 1 shows the water/oil contact at a datum of +385 and that was established from the

log in the Hoover well.

Q Mr. Boneau, refer us to what we've submitted as Exhibit Number Three and tell us what you show on that exhibit.

A Exhibit Number Three is a cross section containing the four wells we've just gone over, the four wells shown on Exhibit Two as A-A'. I think the cross section makes clear the picture we've just gone through.

The well to the west, the Texas Gulf State No. 1 is shown at the left of the cross section. The Queen porosity is very low. The core samples listed underneath the log show that the permeability is very low, 0.1 milidarcy, 0.5 millidarcy. That well is tight and is in the tight, up-dip facies of the Queen. There's no production there.

The second well, the Sweet Thing ABE No. 1 is a Queen producer; no water. The perforations shown on the log are entirely above the water/oil contact. The well produces oil and gas with a gas/oil ratio, as we said, about 4000.

The third well on the cross section is the Hoover. It has perforations that straddle the oil/water contact. Actually the better porosity in the well, the better peremability, is below the oil/water contact and the well produces mostly water but some oil.

The fourth well is the H. L. Brown, Jr. State B No. 2 on the right side. Here the Queen is entirely below the water/oil contact. There's good porosity in this well but it would produce all water.

As indication of the fact that this aquifer extends further, I've looked at other logs to the southwest and to the southeast and they have good Queen porosity. the dualatero logs in some of those wells show that it also is wet. So there's a fairly big aquifer to the south and southeast that is supplying water to this formation.

We've established an up-dip limit of production. The down-dip limit of production is the oil/water contact. The oil column is quite thin; it's less than 30 feet in height. Right now the productive area of the pool you probably could cover with a fifty cent piece on this map, roughly 80 acres.

There's no gas cap evident. Down dip there's a water drive which is going to supply reservoir energy so that if anybody is worried about a high gas production depleting the reservoir energy, the main reservoir energy is this aquifer from the south and southeast and any gas taken out of the well is not going to hurt the oil because there's a water drive.

Yates is asking for this on a temporary basis and we're asking it for it so that we can justify

drilling some more wells to see if this pool actually is bigger than it looks like it might be at the present time.

Q Mr. Boneau, how do you arrive at the requested gas/oil ratio of 5000-to-1? You testified that approximately 4000-to-1 in your Sweet Thing Well. Is that to give you --

A The current producer is -- has a GOR of about 4000-to-1, 3965. We're asking for 5000 so that there's a little, a little leeway to -- to play with so that the well is not shut-in for being illegal just because the GOR bounces around from month to month.

Q Mr. Boneau, do Exhibits Two and Three, in your opinion, accurately depict the geologic and engineering data which you examined for the purposes of your testimony?

A Yes, sir.

MR. DICKERSON: Mr. Examiner, Applicant moves the admission of Exhibits One, Two, and Three.

MR. CATANACH: Exhibits One, Two, and three will be admitted into evidence.

Q Mr. Boneau, if Yates is permitted the higher gas/oil ratio requested, in your opinion will oil be thereby left in the ground that would otherwise be recovered?

A No, sir. If we're allowed to produce at

this higher GOR no oil will be left because the primary producing mechanism for the reservoir energy is this water/oil drive, is this -- is this bottom water drive, and also we need to have this higher GOR just to produce the well in a halfway economic method at today's oil prices and to justify further drilling in the area.

Q If, on the other hand, the higher gas/oil ratio were not permitted, what, in your opinion, or what is your opinion on whether or not waste would occur by reason of that denial?

A I think the reservoir is at least a little bigger than currently defined, If the GOR request is denied, the econmics simply won't let us drill other wells to explore the limits of this -- this trap.

Q Mr. Boneau, Yates is the only operator within the present boundaries established for this Sanmal-Queen Pool, are they not?

A That's correct, yes, sir, Yates operates the two producers in the pool.

Q And in your opinion will the approval of Yates' application in this case be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

A Yes, sir.

MR. DICKERSON: Mr. Examiner,

this concludes my examination. I have no further questions.

CROSS EXAMINATION

BY MR. CATANACH:

Q Mr. Boneau, what is the allowable for these wells, the oil allowable, do you know?

A The oil allowable is 80 barrels of oil a day with a 2000 GOR.

Q So you're being restricted, your oil allowable is being restricted in your Sweet Thing AEB State No. 1 --

A Roughly in half.

Q -- because of (unclear) GOR.

A Roughly in half, yes, sir.

Q Okay.

A With 5000 GOR we can only produce 32 barrels of oil per day.

Q So your request is solely based on economics, is that correct?

A Well, it's based on economics and on the argument that allowing it can do no harm because the reservoir energy comes from the bottom water drive. This is low BTU gas, 40 percent nitrogen gas; a little bit strange situation from that point of view.

We've got this bottom water drive which

is going to produce the oil so we're not, by blowing the gas, or whatever, we're not going to hurt the recovery. That's one point.

And the other point is economics, that's correct.

Q What are you currently doing with the gas?

A The wells are shut in at the moment. Warren has agreed to take the gas and is building a pipeline; they're getting right-of-way for a pipeline and they're estimate that the gas connection will occur September 10th.

Q So you do have a market for your gas.

A We have a market for the gas. It's -- it's going to be sold to Warren. They've got to build four or five miles of pipeline from the north down to us.

The wells are shut in so that we don't flow the gas now. The Sweet Thing is a flowing well and the other one, of course, pumps.

But we are not producing them now until the gas line is connected.

If we can find out if the real solution gas/oil ratio is 4 or 5000, you know, if there is a gas cap, whatever the situation is, in a year, we can explore and hopefully come back with some better facts to decide what

you should do on a permanent basis with this field.

Q Do you have any knowledge, Mr. Boneau, on what your next well location is going to be?

A Well, if you look at Exhibit Two it's pretty clear that you want to drill straight north of the Sweet Thing or pretty much straight west of the Sweet Thing.

I think we will drill straight north.

Q So that will give you more information on the gas cap.

A On the gas cap, yes, sir.

MR. CATANACH: I have no further questions of the witness.

If there no more questions, he may be excused.

Is there anything further in Case 8970?

MR. DICKERSON: Nothing further.

MR. CATANACH: If not, this case will be taken under advisement.

(Hearing concluded.)

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. 8970 heard by me on August 30, 1996.

David R. Catanach, Examiner
Oil Conservation Division