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

CASE NO. 10,898

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

January 20, 1994

FEB 22 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, January 20th, 1994, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

January 20th, 1994
Examiner Hearing
CASE NO. 10,898

* * *

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A P P E A R A N C E S

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* * *

WHEREUPON, the following proceedings were had at 8:32 a.m.:

EXAMINER CATANACH: At this time we'll call Case 10,898.

MR. STOVALL: Application of Yates Petroleum Corporation for pool creation and the promulgation of special pool rules, Eddy County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. CARROLL: Yes, Mr. Examiner, I'm Ernest Carroll of the Losee law firm of Artesia, New Mexico, and I'm representing Yates Petroleum, and I have two witnesses.

EXAMINER CATANACH: Any other appearances?

Witnesses please stand to be sworn in?

(Thereupon, the witnesses were sworn.)

MIKE BURCH,

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

DIRECT EXAMINATION

BY MR. CARROLL:

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

A. My name is Mike Burch.

Q. And by whom and how are you employed?

A. I'm employed in the land department of Yates

Petroleum as a special project technician.

Q. Mr. Burch, have you had occasion to testify previously, and have you had your qualifications with respect to petroleum land management accepted by this Commission [*sic*]?

A. Yes, I have.

Q. Mr. Burch, are you familiar with this particular Application and the case that Yates intends to present here before the Examiner?

A. Yes, I am.

MR. CARROLL: Are Mr. Burch's credentials acceptable?

EXAMINER CATANACH: They are.

Q. (By Mr. Carroll) Mr. Burch, would you please first advise the Examiner what the basis is of this Application?

A. Yates Petroleum seeks the creation of a new pool for the production of oil from the Wolfcamp formation, underlying the northwest quarter of Section 34, Township 18 South, Range 25 East in Eddy County, New Mexico, and also for the promulgation of special rules and regulations for this pool, including provisions for 160-acre oil spacing and proration units, designated well location requirements, a limit on the number of wells in a single proration unit, and a depth bracket allowable of 347 barrels a day.

Q. Mr. Burch, has Yates proposed a name to the Commission for this particular pool?

A. Yes, we do, we propose the Peñasco Draw Wolfcamp Pool.

Q. Now, Mr. Burch, you have prepared certain exhibits today for presentation, have you not?

A. That's correct.

Q. Would you please turn to your Exhibit Number 1 and explain for the record exactly what this exhibit is?

A. Exhibit Number 1 outlines an area surrounding the proposed lands in the Application.

The outlined red area is the 160 acres that we're speaking about. That property is owned and the well is operated by Yates Petroleum.

The yellow area designated in this plat is acreage that's either owned by Yates Petroleum Corporation or the wells on that acreage are operated by Yates Petroleum Corporation.

The green-outlined area, Section 28, is a leasehold interest that is held by Nearburg Exploration.

The blue area in the plat is a -- outlines acreage that Yates Petroleum owns the Wolfcamp rights on. Then Nearburg Petroleum and Fasken owns the deeper rights on that.

The orange area outlined is acreage that AMAX

owns acreage in. At this time it's presently unleased. Yates Petroleum owns 35 net acres, and then there's about five acres that's unleased in there.

Q. Basically for the outside perimeter of this blue line, that's the one-mile demarcation around the subject pool; is that correct?

A. That's correct.

Q. And the red dot, then, marks the Yates Petroleum operated Scout Federal Well, which is the well for which this new pool is being sought; is that correct?

A. That's correct.

Q. Now, if you would please turn to your Exhibit Number 2, could you explain what's contained in Exhibit 2?

A. Exhibit 2 is the certificate of mailing that was mailed to the surrounding parties, in this case, mailed to Nearburg Production Company; Fasken Oil and Ranch Interests; Marshall and Winston, Incorporated; Don Phillips and Associates; Sally Ellis; Quetico Superior Foundation; and AMAX Oil and Gas, Incorporated.

Q. Now, the second page of Exhibit 2 has a list of these very people that you have named; is that correct?

A. That's correct.

Q. Now, waivers to this -- a waiver of opposition to this Application has been received from some of those folks; is that correct?

A. That's correct.

Q. And they are listed on page 2 of Exhibit 2; is that correct?

A. That's correct, yes, sir.

Q. There are three groups from whom we have not heard back or received waivers; is that correct?

A. Yes, sir.

Q. And who are they?

A. That's Sally Ellis; Quetico Superior Foundation; and AMAX Oil and Gas, Incorporated.

Q. All three of those people are interest owners in the orange tract only; is that correct?

A. Yes, sir, that's correct.

Q. On Exhibit 1?

Now, behind the second page, there are actual copies of the letters that were sent out to these individuals; is that correct?

A. Yes, sir.

Q. And the return receipt cards from every one of them except the AMAX Oil; is that correct?

A. Yes, sir.

Q. The AMAX card just has not been received at this time; is that correct?

A. That's correct.

Q. Now, Yates Petroleum has actually had contact,

telephone contact, with AMAX?

A. We've talked to AMAX. We know they did receive the letter; the green card just hasn't come back on the return receipt.

Q. Do you anticipate getting a waiver from AMAX, or is there something going on with AMAX that --

A. Well, we don't -- Yates has made a proposal to buy AMAX's interest, just buy their interest out, and we doubt that we will get a waiver, simply because AMAX is being sold, lock, stock and barrel, the company is being sold out.

They're not having any communication, they're not taking any bids right now, so we may or may not get a waiver back.

MR. CARROLL: The -- If I might explain, Mr. Catanach, why we're being a little particular with this evidence, Mr. Losee filed this Application when I was out of the office, and he read the special provision rules contained in Rule 1207, in particular the -- I guess it's paragraph A-7.

There has been some confusion. I know other lawyers have had problems about the way the wording of that is, and there are no other well -- Wolfcamp wells within this one mile, and he read it as if he didn't have to give notice.

When I got back and saw that, I confirmed with Mr. Stogner that that was not right, and we sent out the notices. The -- Of course, we know that AMAX has actually received it.

The green cards for Sally Ellis reflect a 1-12 receipt date, and Quetico reflects a receipt date of 1-11-94.

We would ask that -- We're going to present the rest of our testimony, and since we don't have waivers from these two people, that the case be taken under advisement for the additional period, for the -- to fulfill the 20 days.

We don't anticipate any problems, but we did want to call that to your attention.

MR. STOVALL: You mean continue it for 20 days, is what you're --

MR. CARROLL: So that they --

MR. STOVALL: Take it under advisement is what you said.

MR. CARROLL: So that they have the full 20-day notice.

MR. STOVALL: Yeah.

MR. CARROLL: And then a decision would be properly renderable.

But the case was already set and we saw no reason

to delay it any further. And we know these people are not going to -- just because of the past dealings with them, but it's just something so that we procedurally fulfill the rules.

Q. (By Mr. Carroll) Now, Mr. -- Let's see here. We have been discussing the waivers that the first four companies have presented to us. Exhibit 3 contains those actual signed waivers, does it not, Mr. Burch?

A. That's correct. And I might state also that we've been in contact with Sally Ellis. She has given us a verbal okay; we just have not received her waiver in the mail yet.

Q. And you've attempted to talk verbally to the Quetico group; is that correct?

A. Well, we've tried. All we have is a mailing address. We cannot contact them by phone. We can't get a location on them in Minneapolis. However, we have received back the -- We know they have been notified and --

Q. The address you -- Because Quetico receives payments from Yates Petroleum on other properties, you are assured that the address you're using is proper; it's just apparently a group without a telephone?

A. Evidently so. We haven't been able to communicate with them by phone.

MR. CARROLL: All right. At this time, Mr.

Examiner, I would move admissions of Exhibits 1, 2 and 3.

EXAMINER CATANACH: Exhibits 1, 2 and 3 will be admitted as evidence.

MR. CARROLL: And I have no further questions of this witness.

EXAMINER CATANACH: Okay. Bob?

MR. STOVALL: (Shakes head)

EXAMINER CATANACH: I don't have any questions. The witness may be excused.

(Off the record)

DAVID F. BONEAU,

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

DIRECT EXAMINATION

BY MR. CARROLL:

Q. Would you please state your full name and by whom you're employed?

A. My name is David Francis Boneau, and I'm employed by Yates Petroleum Corporation.

Q. And how are you employed?

A. I work there as reservoir engineering supervisor in Artesia.

Q. Mr. Boneau, have you had occasion to testify previously before this Commission [*sic*] and have your credentials with respect to petroleum engineering accepted?

A. Yes, sir.

Q. Mr. Boneau, you are familiar with the particulars of this Application that has been filed by Yates Petroleum for the special pool rules and this special pool which Yates would propose to be denominated Peñasco Draw Wolfcamp Pool?

A. I'm familiar with that, that's correct, yes, sir.

MR. CARROLL: Mr. Examiner, are Mr. Boneau's credentials acceptable?

EXAMINER CATANACH: They are.

Q. (By Mr. Carroll) Mr. Boneau, you have prepared some exhibits, have you not?

A. Yes, sir, I've done that.

Q. Would you please turn to your Exhibit Number 4, and if you would begin by explaining the significance of that exhibit.

A. Surely. Exhibit Number 4 is a map that includes a small table at the bottom. Its purpose is to acclimate us to the area and to discuss the nearby Wolfcamp production. We're interested in showing that we really believe this is a new Wolfcamp pool.

The red dot indicates the subject well, the Scout Number 5.

The yellow area indicates the 320-acre spacing unit of the Scout 5 when it was a Morrow producer, and now

it's been plugged back to the Wolfcamp, and we're asking for -- that the southwest -- south -- not south at all, we're in the north today -- that the northwest quarter of Section 34 be designated the spacing unit for the Wolfcamp production from the Scout 5.

The two blue squares in the middle of the map show the locations of the nearest Wolfcamp producers, and we'll discuss those in a few minutes.

The table at the bottom shows some basic data, first of all on the four wells that exist in Section 34, and then on the two Wolfcamp wells that are represented by the blue squares.

The four wells in Section 34 -- in kind of chronological order, the first one drilled was Scout Number 1, which is located in Unit G, I believe. And it was a shallow well drilled to the San Andres Yeso, not really of interest to the case.

The second well drilled was the Scout 3 in Unit B of Section 34. It was drilled as a Morrow test. That came up dry, and it was completed as a shallow well in the San Andres Yeso.

The third well drilled in the section was drilled in early 1981, and that's the well in Unit J, and that's called Rio Peñasco OJ Number 1. It's a Morrow producer. It was drilled deep, and it's a fair Morrow producer that's

been producing for ten or twelve years.

The last well drilled in the section is the subject well, the Scout Number 5. It was drilled in mid-1981. It produced from the Morrow for 12 years. The pool was called Boyd Morrow, and its cumulative production was about 357 million cubic feet.

In December of 1993, about a month ago, Yates abandoned the Morrow and opened the Wolfcamp zone at 5665 to 5678, and that zone is producing, you'll see, quite well from the Wolfcamp, and we're seeking a home for that well, basically.

It was on west-half Morrow spacing, and we'd like it to be spaced on 160 for the Wolfcamp. And then that would leave us with the problem of doing something to hold the southwest quarter, and we're talking about drilling a Wolfcamp well in the southwest quarter that hopefully would hold that if it were successful.

The new Wolfcamp well -- In the Scout 5, the Wolfcamp zone in the Scout 5 clearly produces from limestone at about 5600 feet. It produces oil, associated gas and no water.

We need to contrast that a little to the situation with the two Wolfcamp wells in Section 3, the nearest Wolfcamp producers that are shown by those blue squares.

The upper of the blue squares represents a well called Rio Peñasco RT Number 1. All these wells are operated by Yates Petroleum, and the RT Number 1 was drilled in 1982 as a Morrow test. There was no Morrow, but it was completed in a Wolfcamp zone. It's produced from a pool called Boyd Permo Penn. The production interval is about 6100 feet. It's about 400 feet lower in the Wolfcamp than the producing zone in the Scout 5. The RT Number 1 has produced about half a BCF of sour gas.

It's clearly -- It's in the Wolfcamp, but it's clearly a different zone. Its production characteristics are totally different, and it's not correlative at all in the section.

The other nearby Wolfcamp well is the lower, the southernmost of the two blue squares. The well is named Federal AK Number 1. It's operated by Yates, and it was drilled in 1960.

It's produced from the Wolfcamp since approximately 1963, and in that time it's produced 47,000 barrels of oil and about 46 million cubic feet of gas.

The zone in the section that produces in the Federal AK is relatively correlative with the zone that produces in Scout 5. The producing rock there is a dolomite. It's not a limestone, it's a dolomite. And that's probably the first evidence that we say it's a

different pool than we see in the Scout 5.

The other bit of evidence we have is that the AK Number 1 has produced for these 30 years, and the new zone in the Scout 5 has virgin pressure, so there's been no pressure depletion due to 30 years of production of the Federal AK, and that's fairly good evidence that they're not connected.

So based on that story, we believe that the Scout 5 is a new Wolfcamp pool, and the rest of my testimony is going to be directed at substantiating that 160 acres is appropriate.

Q. All right. Mr. Boneau, is there anything further you would like to point out with respect to Exhibit 4?

A. No, sir.

Q. If you would turn to Exhibit 5, then, and explain what it is, its purpose.

A. Exhibit 5 shows a daily production history for the Wolfcamp production from the Scout 5 since that zone was opened on December 10th, 1991. The oil rate started out about 300 barrels a day, and now it's down to about 250 barrels a day. But the oil rate has been very substantial.

The gas production started at about 350 MCF a day, and it's up to about 475. The GOR has been about 1000 to 1500. There's been no water production, and the wellhead flowing pressure has stayed pretty constant at 690

pounds to about 710 pounds.

So the well is flowing, it's flowing about 250 barrels of oil a day, and it's not dropping off.

Q. Mr. Boneau, I'm not sure, but I thought that I heard you say that the well started production 12-10-91. That's not correct; it's 1993, is the actual date of production?

A. The year is 1993. Who knows what I said? He knows what I said, but...

Q. I'm not sure. I just want to make sure the record is straight.

A. The production began approximately a month ago on December 10th, 1993.

Q. All right. Anything further with respect to Exhibit Number 5?

A. No, sir.

Q. If you would turn to your Exhibit 6, this exhibit is composed of several pages. Would you explain each of those pages?

A. Exhibit 6 contains two pages. The purpose of Exhibit 6 is to estimate the oil reserves for the Scout Number 5.

The first page of Exhibit 6 is a plot of ΔP over Q versus cumulative production, and the numbers that go into that plot are calculated in detail on the second page.

I think it's most important to explain the plot. The numbers are addition and subtraction and division and easily understood. The purpose of the plot is probably unusual, a little bit.

What is plotted here is ΔP, which is the pressure drawdown that's measured daily on the well, and the Q is the daily oil production rate. So the pressure drawdown is the original shut-in tubing pressure, which was about 900 pounds for this well, minus the flowing tubing pressure that you measure each day. So each day we get a measure of what the tubing pressure is, what the oil is, and also the gas rate and the other rates, but the tubing pressure and the oil rate.

And we calculate the difference between the original shut-in tubing pressure and the daily flowing tubing pressure, and that's been about a 200-pound drawdown, and divide that by the daily oil-producing rate.

The purpose of the plot is to plot these values for ΔP over Q for the time period that the well has been on line, and those are the Xs down there, the left hand corner of the plot. And over time, that ΔP over Q increases. And from the data that's -- that we have available, which is a relatively small amount of data, about a month's worth of data, you extrapolate, draw a straight line and extrapolate out into the future, which is into more cumulative

production.

And that's what I've done. I've drawn a line through those Xs. I probably could have drawn a flatter line, which would have given higher reserves, but I've drawn the best line I could.

And the plot actually wraps around three cycles, just to save paper, basically. So there's one section that goes from zero to 70,000 barrels, the middle section then goes from 70,00 to 140,000 barrels, then top section of the plot goes from 140,000 to 210,000 barrels, as indicated on the top of the graph.

My estimate is that the well will stop flowing when the tubing pressure drops to zero, and I'm estimating that that rate will be about three barrels a day. And that gives me a ΔP over Q of 300, and that's up at the right-hand corner of the plot, and that's where the extrapolated helical kind of curve hits a ΔP over Q of 300. The reserves are about 202,000 barrels, and that's my estimate of the reserves.

Technically, that says the well will stop flowing when the well has produced 200,000 barrels of reserves, and it should pump some more oil after that.

But this is an estimate, and I've extrapolated it a long way, and for estimation purposes here I'm using 200,000 barrels as the reserves of the well flowing and

pumping.

I don't know if the Commissioner [*sic*] has seen this plot before, but this is -- this does work, and it's a standard-in-the-industry plot, and it's based on pretty simple data for flowing wells, and it works, and I think it works on this occasion.

This is a good well, and 200,000 is a reasonable estimate of the reserves, and it's the estimate that I get by applying this method.

I think that's all on Exhibit 6.

Q. All right. Would you turn to your Exhibit 7 then?

A. Exhibit 7 contains five pieces of paper. The purpose of it is to calculate the drainage area that corresponds to reserves of 200,000 barrels of oil. The result is at the bottom of the first page, and the drainage area is 119 acres.

The data on the well in the reservoir is listed on that first page, and my proposal would be not to go through it unless the Examiner wants to do that.

The supporting data is in the following pages.

The second page is a detail of the log calculation for the Wolfcamp zone in the Scout 5, and the $S_o(\phi)h$ turns out to be 2.261.

The third page is a plot of the porosity log

where the porosity is marked in in blue, and the porosity in this zone goes up to about 20 percent.

The fourth page in the Exhibit is a copy of the resistivity log where the separation on the resistivity log is shown in orange and in yellow, and the good separation on the log indicates good permeability in the reservoir.

And the final page of Exhibit 7 is a gas analysis, and it just shows that this is sweet gas and it's rich gas.

So the calculation, the volumetric calculation for 200,000 barrels of oil, gives a drainage area of 119 acres, and I would maintain that that's consistent with a spacing unit of 160 acres.

Q. All right, Mr. Boneau. Based on what you have told us about your calculations, both on the previous exhibit and this exhibit, it is your opinion that this well will in fact drain more than 119 acres, but this 119 acres at least establishes larger than an 80-acre proration unit, based on some very conservative numbers; is that a fair --

A. That's a fair characterization of the approach, yes, sir.

Q. Thank you. Now, Mr. Boneau, you've got one last exhibit, Exhibit 8. Would you explain the significance and relationship of this exhibit to the case?

A. Exhibit Number 8 just shows that 160-acre spacing

for Wolfcamp is not unique or unusual. It's a list of eight Wolfcamp pools that I could find that -- I don't contend that it's an exhaustive list, but it's -- We looked at a lot of orders, and these are the eight we could find that have been spaced on 160-acre spacing.

Four of the pools still have 160-acre spacing in effect.

Four of the pools at the bottom are cases where a 160-acre spacing was made temporary. They were one-well pools, and when the Commission re-opened the case nobody showed up, and the 160-acre spacing went away. And that's exactly what happened in those bottom four.

Q. Mr. Boneau --

A. I think we're -- Yeah, we're asking for permanent 160-acre spacing rules.

The well we're talking about is better than the wells in any of these other pools I've been able to find, and I personally think it justifies permanent 160-acre spacing, but --

Q. All right, that was my question, Mr. Boneau. There has been some practice by the Commission to adopt these special rules for a test of one-year period. It is Yates's position, then, that you do not want that to occur here, but you would in fact ask that permanent rules be adopted; is that correct?

A. That's what we're asking. The truth is that in the past they've been made temporary for one year or, in some cases, for two. And obviously we'd rather have two than one, but we're asking for permanent.

Q. All right. Anything further that you would like to express to the Commission -- the Examiner, with respect to your case?

A. No, sir.

MR. CARROLL: Mr. Examiner, I'd move admission of Exhibits 4 through 8 at this time.

EXAMINER CATANACH: Exhibits 4 through 8 will be admitted as evidence.

MR. CARROLL: And I would pass the witness.

EXAMINATION

BY EXAMINER CATANACH:

Q. Dr. Boneau, the reason that we usually bring people back is, the initial evidence is not generally enough to establish permanent rules.

Do you feel like you've got sufficient evidence at this time?

A. I think it's sufficient. You have to judge whether it's sufficient and it's better than the evidence in these other cases.

MR. STOVALL: To follow up on that, Dr. Boneau, in this case you're actually going from -- what? 320

standard to 160 standard; is that correct?

THE WITNESS: The well has been on a 320-spacing unit for the Morrow --

MR. STOVALL: Never mind, my question was -- Okay, I misunderstood something.

Q. (By Examiner Catanach) Dr. Boneau, what is the -- You cited two pools in the Section 3, the Boyd Permo Penn and the Peñasco Wolfcamp. What are those spaced on, do you know?

A. Yes, I do know. I wasn't sure I knew there for a minute, but after checking, I do know.

MR. STOVALL: But you're going to keep it a secret, right?

THE WITNESS: No, I surely am not.

The Peñasco Wolfcamp, the oil pool has no special rules. It's 40 acres, standard rules. The Boyd Permo Penn is really a gas pool, and it's a 320-acre gas pool.

Q. (By Examiner Catanach) Okay. In the -- who operates -- Does Yates operate the Rio Peñasco RT Number 1?

A. Yes, Yates operates the six wells in Exhibit 4.

Q. Okay. Is the -- The interval that's producing in the Scout 5, is that interval not present or not potentially productive in the RT 1?

A. Okay, the interval in the Scout 5 and the interval in the AK 1, and there's an interval in the RT

that look roughly correlative in the section -- In the Scout 5, it's high porosity and it's limestone. In the AK 1 and the -- and there is a similar zone in the RT 1, and they're a lot lower porosity, but they're both dolomite, in the RT 1, in the AK 1.

So it is possible that at some time the RT would be open and that this correlative interval -- but the zone in the RT 1 looks very similar to the zone in the Federal AK 1, the dolomite zone in the Federal AK 1, and looks different than the limestone zone in the Scout 5.

Q. Okay. The AK 1 is producing from that same correlated interval as the Scout 5; is that right?

A. If you line them up on the logs, they're within a half inch, you know, on the figure. And yeah, you would say it's correlatable.

The AK 1 and the Scout 5 produce from an interval on the logs. If you lined them up, they're close enough that you'd say they're correlatable. The difference is, the one is limestone, the one is dolomite.

And what I'm trying to tell you in addition, in answer to your question, is that the RT 1 has the same kind of dolomite, small dolomite interval, that the AK 1 has in that same correlatable position.

Q. And you believe from this log examination that it is not in fact a continuation of the same pool in the --

that the Scout 5 pool is not a part of the other two pools?

A. Yeah, that's what I believe, and the pressure data supports that a little bit. It's pretty far away to be drained, but there is no drainage.

Q. Do you know what the original pressures were in those reservoirs?

A. Well, what I do know is the original pressure in the Scout 5 Wolfcamp reservoir, because it was DST'd when it was drilled, and that pressure is approximately 2455 p.s.i., and that's a higher pressure than you get from a freshwater gradient. So it's -- You would call it virgin pressure.

I do not know the original pressure in the Federal AK, but I do know that it's produced for 30 years and its pressure is down to very small values now.

Q. Is this a solution gas reservoir, as far as you can tell?

A. All indications are, it's a solution gas reservoir, yes, sir.

Q. Have you from the logs quantified the permeability in this well?

A. The analysis of the DST that was run when the Scout 5 was drilled indicates that the permeability is 25 millidarcies.

Q. Your Exhibit Number 6, the ΔP over Q curve, does

that take into account at all the drilling of additional wells offsetting this? Or what effect --

A. No.

Q. -- would that have on --

A. No, no, no, it takes no effect of that at all.

Q. It would have no -- The drilling of additional wells would have no effect on this curve?

A. That's not what I'm saying. The drilling of -- This curve, Exhibit 6, assumes there will be no offset drilling. And if you drill a well too close and take some of those reserves, they'll be taken away.

Q. Is a recovery factor of 17 percent normal in a reservoir such as this, Dr. Boneau?

A. Yes, that's developed from correlations. I refer to some people's names there that publish recovery factors for solution gas reservoirs, and 17 percent is an entirely normal recovery from a -- for a solution gas drive reservoir of this type.

Q. Is the -- You said the permeability in this well was 25 millidarcies. How does that compare to the well -- to the AK Number 1? Have you done any comparison to that well?

A. Well, I have not calculated a permeability for the AK Number 1, but the permeability of the AK Number 1 would be much less than that. It would be one or two or

three -- one to five millidarcies. Probably closer to one.

Q. You've got a request to also limit the number of wells to one well per proration unit; is that correct?

A. My understanding is that we're asking for two wells per proration unit.

MR. CARROLL: That's in the Application, Mr. Catanach, two wells per proration unit.

Q. (By Examiner Catanach) What's the reason for that request?

A. As I understand the logic, it's to try to anticipate things, come here once and get this pool taken care of. Now, whether we do that or not is up to you guys.

I believe that this well drains 160 acres, and that's definitely appropriate. I think the logic is that the next well we drill might not be in such a good location, and the permeability might be lower, et cetera, and you end up draining 80 acres and need a second well, possibly. It's just to try to take care of that eventuality.

Q. Well-location requirements, Dr. Boneau, 660, I assume -- Is that what Yates is asking for?

A. Yes, sir. Yes, that's what we're asking for, normal rules. Also normal rules on GOR and everything else standard.

Q. You don't anticipate at this point in time that

an additional well will be drilled in that northwest quarter?

A. I definitely do not anticipate another well in the northwest quarter.

Q. Our rules don't generally limit the number of wells that can be drilled in any given oil pool -- Well, we'll work on that.

A. We'll live with what you write, I'm sure.

EXAMINER CATANACH: I don't think I have anything further of the witness. He may be excused.

Anything further, Mr. Carroll?

MR. CARROLL: Nothing further, that completes our case.

EXAMINER CATANACH: So if I understand it, we're continuing this case for two weeks?

MR. CARROLL: That should take care of the notice requirements.

EXAMINER CATANACH: Okay.

MR. STOVALL: I don't have any questions either, Mr. Examiner.

EXAMINER CATANACH: Good. There being nothing further, this case will be continued for two weeks, at which time you're going to appear and --

MR. CARROLL: I would prefer not to have to -- I don't think there's any -- if you wouldn't mind just

calling it.

EXAMINER CATANACH: Probably no need unless we have somebody else that appears and --

MR. CARROLL: Certainly --

EXAMINER CATANACH: Okay.

MR. CARROLL: -- that's what I'm hoping.

(Thereupon, these proceedings were concluded at 9:17 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 February 7th, 1994.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10898, heard by me on January 20 1994.

David R. Catanach, Examiner
Oil Conservation Division