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 TO AMEND THE SPECIAL POOL RULES AND REGULATIONS FOR THE INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL ESTABLISHED BY ORDER NUMBER R-9922, EDDY COUNTY, NEW MEXICO	CASE NOS. 11,484
IN THE MATTER OF CASE NUMBER 10,748 BEING REOPENED PURSUANT TO THE PROVISIONS OF DIVISION ORDER NUMBER R-9922-B, WHICH ORDER CONTINUED SPECIAL RULES AND REGULATIONS FOR THE INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL IN EDDY COUNTY, NEW MEXICO, IN FULL FORCE AND EFFECT UNTIL JANUARY, 1996	and 10,748
	(Consolidated)

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS
EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

March 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, March 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

March 21st, 1996
Examiner Hearing
CASE NOS. 11,484 and 10,748 (Consolidated)

* * *

E X H I B I T S

* * *

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

FOR MARATHON OIL COMPANY:

KELLAHIN & KELLAHIN
117 N. Guadalupe
P.O. Box 2265
Santa Fe, New Mexico 87504-2265
By: W. THOMAS KELLAHIN

FOR SANTA FE ENERGY RESOURCES, INC.:

HINKLE, COX, EATON, COFFIELD & HENSLEY
218 Montezuma
P.O. Box 2068
Santa Fe, New Mexico 87504-2068
By: JAMES G. BRUCE

* * *

WHEREUPON, the following proceedings were had at 10:35 a.m.:

EXAMINER CATANACH: At this time we'll call Case 11,484, which is the Application of Yates Petroleum Corporation to amend the special pool rules and regulations for the Indian Basin-Upper Pennsylvanian Associated Pool established by Order Number R-9922, Eddy County, New Mexico.

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.

We represent Yates Petroleum Corporation, the original Applicant in this case, and I have two witnesses.

I would also request at this time that Case 10,748 be consolidated for purposes of hearing with Case Number 11,484, which is the Application of Yates Petroleum Corporation to amend the special pool rules and regulations for the Indian Basin-Upper Pennsylvanian Associated Pool.

Consolidating these cases will enable us to review all current questions concerning the pool rules in one hearing.

EXAMINER CATANACH: At this time I will call Case 10,748, which is in the matter of Case Number 10,748 being reopened pursuant to the provisions of Division Order Number R-9922-B, which order continued Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool in Eddy County, New Mexico, in full force and effect until January, 1996.

Are there additional appearances in either of these cases?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of Marathon Oil Company in support of the Applicant in these cases.

MR. BRUCE: Mr. Examiner, Jim Bruce from the Hinkle law firm in Santa Fe, representing Santa Fe Energy Resources, Incorporated, and it is also appearing today in support of Yates's Application.

EXAMINER CATANACH: No witnesses for either of these parties?

MR. BRUCE: No witnesses.

MR. KELLAHIN: No, sir.

EXAMINER CATANACH: Okay. Can I get the two witnesses to stand and be sworn in at this time?

(Thereupon, the witnesses were sworn.)

MR. CARR: At this time we call Mr. Brent May.

BRENT MAY,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Brent May.

Q. Where do you reside?

A. Artesia, New Mexico.

Q. And by whom are you employed?

A. Yates Petroleum.

Q. Mr. May, have you previously testified before this Division?

A. Yes, I have.

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

A. Yes, they were.

Q. Are you familiar with the Indian Basin-Upper Pennsylvanian Associated Pool?

A. Yes, I am.

Q. Were you not the geological witness that testified in the June, 1993, hearing which resulted in the adoption of temporary rules for this pool?

A. Yes, I was.

Q. Are you familiar with the Application filed on behalf of Yates Petroleum Corporation in Case 11,484, which concerns additional changes in the rules for this pool?

A. Yes, I am.

Q. Have you revised and updated your geological study of the pool based on recent developments therein?

A. Yes, I have.

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

EXAMINER CATANACH: They are.

Q. (By Mr. Carr) Mr. May, would you briefly summarize what Yates Petroleum Corporation seeks in this case?

A. We seek adoption of some of the current temporary pool rules to be transformed into a permanent basis, and those that we want to convert from temporary to permanent would be the designation of the pool as an associated reservoir and the 320-acre proration unit.

Q. What are the new changes you're proposing?

A. We'd like to see one well per 80 acres.

We'd also like to have deletion of Rule 5 (b), which is simultaneous dedication of acreage, both oil and gas wells, which we would like to see.

And we would also like to have the adoption of a GOR of 10,000 cubic feet of gas per barrel of oil produced.

Q. What is the oil allowable for this pool?

A. It's currently 940 barrels of oil per day for the 320-acre proration unit.

Q. That's what we've got under the current temporary rules?

A. That is correct, yes.

Q. Is Yates also requesting an increase in the oil allowable for the pool?

A. Yes, we are.

Q. Have other operators expressed interest in a special oil allowable?

A. Yes, they have.

Q. And what allowable does Yates request here today?

A. 1400 barrels of oil per day.

Q. When was this pool actually created?

A. Back in July 6th of 1993.

Q. And that is the date when the temporary rules were adopted?

A. Yes, it is.

Q. Those rules were scheduled to be reopened in January of 1995?

A. That's correct.

Q. Could you explain to Mr. Catanach what caused the delay in this case being reopened?

A. Just before most of the operators were about to

kick off drilling programs, the BLM halted any further drilling in the pool because they wanted to conduct an environmental assessment of the area, and they did not allow any drilling activity until the environmental assessment was completed.

At that time, then, they did allow the operators to start drilling again in the area, and I believe that assessment took anywhere from six to nine months to conduct. And that's the reason for the delay.

Q. So the case was continued, or the reopening of the case was then continued to the first part of this year?

A. Yes, that's correct, because when it was originally scheduled, even though there were some wells that had been drilled, they had been producing for probably less than a year, so there was very little data at that time.

Q. Mr. May, let's go to what has been marked for identification as Yates Petroleum Corporation Exhibit Number 1. Would you identify it and review it for the Examiner?

A. This is a land plat of the area. It's kind of hard to see, but there is a heavy black line for the pool boundaries. The acreage colored in yellow is Yates Petroleum leases. There's also shown the other leaseholders within the pool and other leaseholders outside

of the pool.

Q. There will be subsequent maps which more clearly show the boundary of the pool; is that correct?

A. Yes, that's correct.

Q. We have included within the pool boundary the east half of Section 6; is that right?

A. Yes, we have.

Q. Have you had the records at the OCD checked to confirm whether or not this acreage is in or out of the pool?

A. Yes, it does appear that the records at the OCD in Artesia do show that this east half of 6 being in the pool.

Q. The records in the Santa Fe OCD, however, do not; is that right?

A. As far as I'm aware, they do not.

Q. The well that is operating in the east half of Section 6, however, is governed by the pool rules for this pool?

A. Yes, that's what I understand, the Brannigan Number 2 is being governed under the pool rules.

Q. How much additional development has actually occurred since the temporary rules were adopted?

A. I believe most of the current producing wells have been drilled or are completed since the temporary pool

rules. There was only one or two wells at the time of the temporary pool rules.

Q. And in preparing your presentation today, have you reviewed all available data on the pool?

A. Yes, I have.

Q. Is Exhibit Number 2 a copy of an affidavit affirming that notice of this Application -- and I mean the Application In Case 11,484, proposed new rule --

A. Yes, it is.

Q. -- has that Application been provided to all affected interest owners, as required by Oil Conservation Division Rule 1207?

A. Yes, it has.

Q. And attached to that are copies of the letters and the return receipts; is that right?

A. Yes, that's correct.

Q. To whom was notice given?

A. All the operators in the pool, plus any operators within a mile of the pool boundaries that are operating in the Pennsylvanian formations.

Q. Are there any unleased mineral owners within the pool?

A. Not that I'm aware of.

Q. Let's go to Exhibit Number 3, your structure map. Can you identify this and review it for Mr. Catanach?

A. This exhibit is very similar to an exhibit I showed in the first hearing for the temporary pool rules.

The dark black line shows the extent of the Canyon or Upper Penn dolomite, which is the producing interval in this area.

I have some purple lines on here which show the approximate pool boundaries. And what I mean by "approximate" is, you can look over on the northwest side of the Indian Basin Pool and the south side of the Indian Basin Pool. That's where the Canyon dolomite stops. So the productive interval stops there. So it's not quite exact with what the state has shown as -- to be their boundaries of the pool rules.

Q. If we look at the exhibit and we seek the dark purple line between, say, South Dagger Draw and Indian Basin, that line is actually as defined by the State; is that right?

A. Yes, that's correct.

Q. If we move off to the northwest and we see this sort of wavy line coming down from northeast to southwest, that is within Indian Basin but where you've determined that the reservoir in fact pinches out?

A. That's correct.

Q. And that's how to read this map?

A. Yes.

Q. What does this show?

A. I've got shown on here South Dagger Draw, the Indian Basin Gas Pool and the boundaries, pool boundaries of the Indian Basin Associated, which is what we're up here for today.

I have also shown, using the various colors, where there might be water, oil or gas production out of this Canyon or Upper Penn dolomite. That should be used fairly loosely, because it's definitely not an easy pick, where some of the gas-oil contacts or some of the oil-water contacts are, but this is my best shot at this point with the data that I have.

The blue is showing where the Canyon dolomite might be water productive, the green is showing where it might be oil productive, and the yellow is showing where it might be gas productive.

You might note that most of the old Indian Basin Gas Pool is within the gas-productive interval. South Dagger Draw is in the green, the oil productive interval. And most of the Indian Basin Associated Pool is within the green, oil productive interval.

Within the pool boundaries on the Indian Basin Associated Pool I have some structure contours. These are on top of the Canyon or Upper Penn dolomite. They're 50-foot contours. You can see a basic northwest-to-southeast

dip. I've included these in the pool boundaries, because these gas-, oil- and water-productive intervals are loosely based off the structure. And also, the structure is also a very good -- one of the better geologic factors for picking locations in this pool.

One thing I might point out, you note that most of the wells within the Indian Basin Associated Pool are oil producers. But you might note in Section 2 of 22 South, 24 East, there's gas wells there, and they are inside the green interval that I'm showing.

The structure map helps explain this. There's a closure there, which I believe is creating a small gas cap. The operator of this section has only perforated the upper part of the dolomite, and I believe if perforations were made lower, there could be some possible oil production in that section.

Q. How does the oil-productive area in the Indian Basin-Upper Penn Associated Pool compare with the oil-productive area, say, in South Dagger Draw?

A. The Canyon dolomite or Upper Penn dolomite, as you can see from this map, is continuous throughout these three pools. In fact, it's continuous all the way up to North Dagger Draw. It's all the same unit. There's no breaks in between these pools. It's continuous from North Dagger Draw all the way down to Indian Basin Associated

Pool.

And the characteristics through all of these pools are very similar. In other words, the geology is very similar through all these pools.

Q. Briefly summarize the conclusions you've reached from a geological standpoint.

A. The main point I want to hit on is that the geology is very similar through all of these pools and that the permanent pool rules we are asking for today are very similar to the pool rules existing in the South Dagger Draw, and because of the similar geology, that is why we are asking for similar-type rules in the Indian Basin Associated Pool.

Q. Mr. May, will Yates also present an engineering witness to review the engineering aspects of this case?

A. Yes, they will.

Q. Were Exhibits 1 through 3 either prepared by you or compiled at your direction?

A. Yes, they were.

MR. CARR: At this time, Mr. Catanach, we would move the admission into evidence of Exhibits 1 through 3.

EXAMINER CATANACH: Exhibits 1 through 3 will be admitted into evidence.

MR. CARR: And that concludes my direction examination of Mr. May.

EXAMINER CATANACH: Do you have any questions, Mr. Kellahin?

MR. KELLAHIN: Yes, Mr. Examiner.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. May, if you'll turn to Exhibit 3 with me, make sure I understand what significance you attach these areas for which you've identified them to be gas, oil or water. If you'll help me find the discovery well for the pool, I think it was down in Section 17.

A. That is correct, the Hickory Number 1 in the northwest of Section 17, 22 South, 24 East.

Q. 22 South, 24 East, 17. It's that Hickory ALV Federal 1 well, right?

A. That's correct.

Q. The map would indicate that that would be a well that would be in the oil-productive area. But on discovery and through the current date, it still produces a substantial quantity of water, does it not?

A. Yes, and I should explain that all of these wells will produce water. They're very -- Just like Dagger Draw, with the oil there is always water production, and in many cases there's also gas production too.

Q. As we move farther to the east, I think we're moving downstructure in the reservoir?

A. Barely so, yes.

Q. As you move to the eastern edge, downstructure position, do you see water rates higher than you do if you move to the western portion of the pool?

A. Not necessarily, no.

Q. So there's no way you as a geologist or other geologists for these other companies can accurately forecast geologically where to put these wells within a spacing unit so to minimize the water production?

A. Yes, that is hard to do.

Q. It's a significant risk to the operators in this pool, is it not, Mr. May?

A. Yes, sir, just like it is in the Dagger Draw pools; there's a substantial water production, and any operator who's in the area has to have facilities to handle that water production.

Q. When we look at the relationship of those wells that produce higher volumes of gas than other wells, where are we likely to find those wells within the pool?

A. Within this pool?

Q. Yes, sir.

A. Well, it's the ones I've pointed out earlier in Section 2. Those are the ones that I believe produce more gas.

Q. That's sort of an oddity, is it not, when you

look at the relationship of this pool to the Indian Basin Gas Pool farther to the west?

A. That's correct, and that's why I stated I felt like that there was a structural closure there that was acting as a gas cap, trapping gas.

Q. In Section 5 there, within the pool, there appears to be, I think, a gas well in Section 5?

A. Yes, sir.

Q. What -- And so under the current rules, the operator of that section, which I think is Santa Fe --

A. Yes, sir.

Q. -- Santa Fe on 320 spacing is now precluded, or at least at risk, if they want to drill another well in that spacing unit and that well turns out to be an oil well?

A. I believe that old gas well that you're talking about in Section 5 is originally in the old Indian Basin Gas Pool, and it may be currently plugged now.

Q. With regards to the choices the operators are making in this associated pool and the limitation of not being able to simultaneously dedicate a spacing unit to both an oil and gas well, are we facing the same kind of issues that the operators faced in South Dagger Draw over that point?

A. That's correct.

Q. Would deletion of that limitation, then, provide greater flexibility to the operators to maximize the recovery of hydrocarbons out of the associated pool?

A. Yes, it would, and our engineering testimony will delve into that more.

Q. Geologically, though, do you see any reason to maintain that rule difference where you can't simultaneously dedicate oil and gas wells in the same spacing unit?

A. I would say no, it's more of an engineering question.

Q. In an associated pool, in the classic conventional associated pool, we're dealing normally with a gas cap in an oil pool, and we're trying to limit gas withdrawals in order to preserve the drive energy for the oil production. Is that kind of thing working here?

A. Indian Basin is the gas -- The old Indian Basin Pool is the gas cap for the Indian Basin Associated, and I think engineering could probably go into more depth on that for you.

Q. Geologically when you look at this, do you see a true gas cap within the associated pool?

A. Not in the associated pool, no.

Q. Do you know what the operators are planning for further developments within the sections or the spacing

units if we're allowed to drill more -- a higher degree of density of wells?

A. Just speaking for Yates is that we would probably be out there drilling some more wells.

Q. So the current rule, which says one well per 160 -- In other words, we have 320 spacing, but we have an optional infill well so that we have no more than one well per 160?

A. That's correct.

Q. All right. That's a current limitation to further drilling in the pool?

A. That's correct.

MR. KELLAHIN: Thank you, Mr. Examiner. I have nothing else.

MR. BRUCE: I have no questions.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. May, is there anything that separates the Indian Basin Associated from South Dagger Draw?

A. Not that I'm aware of. In fact, I think at some point -- You can look by the green I have on my map. There is a good possibility that the oil production will hook up between those two pools.

The dolomite is continuous all the way up there, in fact, in very thick quantity. You can see thicknesses

ranging from 300 to 400 feet, all the way from Indian Basin Associated, all the way up to South Dagger. I have seen no geologic break in between the two pools.

Q. How did the properties within the Canyon dolomite -- permeability, porosity, that kind of thing -- how do they compare with the South Dagger Draw?

A. They're very similar, because all of the wells can make high volumes of fluid, very similar to the South Dagger Draw. We see on logs porosities, good porosities and good permeabilities, very similar to South Dagger Draw.

I think overall, there's been very few -- geologically, there's been very few differences between the two pools. As far as -- I have seen one core analysis on a core down in Indian Basin Associated Pool, and I have seen and actually pulled cores out of some wells in South Dagger, and the rock was very similar, and I think it was depositionally laid down in the exact same depositional environment.

Q. The current pool rules for the Indian Basin, it's 320-acre spacing for both oil and gas; is that correct?

A. Yes, I believe that's correct, with two wells per 320.

Q. So if you've got a gas well currently on a 320, you're precluded from drilling an oil well on that 320?

A. That's the way I understand it, yes, sir.

Q. But you can have two oil wells currently on a 320?

A. Yes, sir.

Q. Okay. The only -- Well, besides the gas cap in Section 2, we're just dealing with a gas-bearing zone on the northeastern part -- northwestern part of the field there?

A. That was actually -- I believe that's actually -- It's right in there where you -- where -- It's very close to where you can lose your oil leg and go into nothing but gas, which is associated with the old Indian Basin Gas Pool, and that line can easily move around some.

But what we've seen is that over on that northwest side, you're rising in structure to the northwest, your oil leg is actually ending up at the very bottom of the Canyon dolomite, and your gas leg is above that. And the more you rise up in structure, you actually lose your oil leg and get into nothing but the gas at the old Indian Basin Gas Pool.

Q. So the way it is now, as far as geologic considerations, it's properly classified as an associated pool, in your opinion?

A. Yes, in my opinion.

EXAMINER CATANACH: I believe that's all I have of the witness.

MR. CARR: We have no further questions of Mr. May.

At this time we would call Mr. Ray Stall.

RAYMOND STALL,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Albert Raymond Stall.

Q. Where do you reside?

A. Artesia, New Mexico.

Q. By whom are you employed?

A. Yates Petroleum Corporation.

Q. And what is your current position with Yates Petroleum Corporation?

A. Reservoir engineer.

Q. Have you previously testified before this Division?

A. Yes, sir, I have.

Q. At the time of that testimony, were your credentials as a petroleum -- or a reservoir engineer accepted and made a matter of record?

A. They were.

Q. Are you a registered petroleum engineer?

A. Yes, I'm a registered petroleum engineer with the State of New Mexico.

Q. Are you familiar with each of the Applications in these consolidated cases?

A. Yes, sir.

Q. Have you prepared an engineering study of the pool?

A. Yes.

Q. And are you now prepared to present the results of that study to Mr. Catanach?

A. Yes.

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

EXAMINER CATANACH: They are.

Q. (By Mr. Carr) Mr. Stall, let's go to what's been marked as Yates Petroleum Corporation Exhibit Number 4. I'd ask you to identify that and review it for Mr. Catanach.

A. Okay, this is a bit of a rehash of what's on Brent's map. Exhibit 4 is a map of the Indian Basin-Upper Penn Associated Pool. It has the pool boundary outlined in green.

The map is color-coded. The coding shows leasehold interests as taken from a commercial-map-company source. The purpose here, however, is more just to show

where the various companies operating in the pool have their operations.

And then it shows wells that have been active as Indian Basin-Upper Penn Associated wells. This includes the producers, a couple of drilling wells -- which actually, I believe, are TD'd and are waiting on completion -- a well that's testing and a well that's TA'd, all from the Indian Basin-Upper Penn Associated.

There is a mark on the map under some of the well numbers on R, which is not in the legend, and that denotes that those were re-entries of older wells that existed in the area.

And finally, on the map the spacing units are shown by dashed lines.

Q. All right, Mr. Stall, let's move to Exhibit Number 5. Will you identify that, please?

A. Exhibit Number 5 is a tabulation by month of production from each individual well that's produced from the Indian Basin-Upper Penn Associated Pool. There's a separate page included for each well showing oil, gas, water and number of days produced by month, and also the GOR produced by month.

At the bottom of each page there is a total which shows the cumulative production for the well of oil, gas, water, number of days, and also the calculated GOR for

those totals.

Q. Let's go now to your well summary for the Indian Basin Associated Pool wells, Exhibit Number 6. Can you review that for Mr. Catanach?

A. Exhibit 6 is a summary sheet for all the wells in the Indian Basin-Upper Penn Associated Pools. It's broken down by operator, showing all the wells. It gives their locations, a little bit of test information or well information, completion date, IP, oil, gas, water and the length of test, oil gravity is shown in some cases where we have it, and then the perforated interval.

And also taken from the previous exhibit are cumulative production numbers for oil, gas, water, and the cumulative GOR. And I put the cumulative GOR on here to try to show that there is a variation in the relationship between the wells -- among the wells, between the oil and gas production.

Q. This exhibit, again, shows all the wells currently producing from this pool?

A. Yes, it does.

Q. All right. Let's move to Exhibit 7, and I'd ask you to compare the existing rules in effect for the Indian Basin-Upper Pennsylvanian Associated Pool and compare that with South and North Dagger Draw.

A. Okay, that's what this exhibit does; it tries to

compare the key rules for the existing temporary Indian Basin-Upper Penn Associated Pool order with current rules existing in North and South Dagger.

To summarize it briefly, if you look at the first column under "Item", you have the NMOCD order in here. I'm trying to refer to the main orders that these rules are derived from or come from.

It has "Spacing Units", and that's pretty self-explanatory.

"Well Locations" is the same.

And then we get into "Field Development". In the Indian Basin-Upper Penn Associated, as has been mentioned previously, there's, on the 320-acre spacing, one well per 160 acres allowed. And the other two pools allow for multiple wells and have been developed in some cases on 40 acres -- in many cases, in fact.

The next item is "Simultaneous Dedication", and that points out the discrepancy between the Indian Basin-Upper Penn Associated and the two Dagger Draw pools, in that, as you mentioned earlier, it doesn't allow you to simultaneously dedicate the acreage to oil and gas production, or oil and gas wells.

Top allowables are compared, and then limiting GORs are compared. And from the top oil allowable and limiting GOR I've tried to show how much production, gas

production, would be permitted from the spacing unit.

And in summary of this sheet, I would like to also add that this is essentially what we asked for at the original hearing and the OCD was good enough to grant for us. So we're asking to change what we came in with originally.

Q. All right. Let's go to Exhibit Number 8, and I'd ask you to review exactly what it is we are seeing here today in terms of additional changes.

A. Okay, Exhibit Number 8 is proposed changes to the temporary order, R-9922. I'll just go down through the various rules that we're asking for changes on.

On Rule 2 (b), the existing rule states that there shall be no more than one well per quarter section, and we would like to increase the density to no more than one well per 80 acres.

Rule 5 (b), which concerns the simultaneous dedication, states that simultaneous dedication of any acreage to an oil well and to a gas well is prohibited. We would like to see 5 (b) deleted, thereby allowing the simultaneous dedication of acreage to both oil and gas wells.

And then on Rule 6, we would like to see the existing GOR of 2000 cubic feet of gas per barrel of oil increased to 10,000 cubic feet per barrel.

And finally under Rule 22, we'd like to -- The existing rules provide for a 940-barrel-of-oil-per-day top oil allowable for a 320-acre proration unit. We would like to see that increased to 1400.

Q. All right, let's go to Exhibit 9. Can you explain how this differs from what we presented in Exhibit Number 7?

A. Okay, very quickly, what -- the way it differs is that what you see in the column under "Indian Basin-Upper Penn Associated" is what you would have if we're successful in our request to you to approve the changes to the pool rules.

Q. And if these pool rules that you're requesting are changed per your request, does this not show that, in effect, what you're doing is pulling the rules for Indian Basin-Upper Penn Associated into line with the rules for South Dagger Draw and North Dagger Draw?

A. Yes, sir, that's very much correct. We're trying to --

Q. Now, Mr. Stall, we're requesting a proposed change in Rule 2 (b), which provides for one well per 80 acres instead of one well per quarter section. Can you review the reason for this particular request, for the Examiner?

A. Yes, I have several items that I'd like to talk

about here.

First of all, to begin with, and in line with Brent May's testimony is that, I think the Indian Basin-Upper Penn Associated is thought to be basically in the same geologic complex as North and South Dagger Draw, same type of pool, maybe -- same formation definitely. And therefore we think that it would make sense to have similar rules between the Indian Basin-Upper Penn Associated and the North and South Dagger.

Q. At the original hearing, there was drainage evidence presented. Have you reviewed and looked at -- and calculated areas of drainage in the Indian Basin-Upper Penn?

A. Yes, at the original hearing testimony was presented based on analogies from South Dagger Draw that wells in the Indian Basin-Upper Penn Associated would drain 80 to 100 acres. I believe that Hickory was thought maybe to be a candidate for draining 100 acres. And those turned out to be pretty good numbers, I believe.

Q. Now that we've had a little bit more time and some production, up to two and a half years of production on some wells, I used standard engineering techniques and calculated drainage for the 14 wells that do have production. And in doing that, I started by taking the -- or projecting ultimate recovery for each well on decline

analysis. And then I used the numbers obtained in that manner in standard volumetric equations to try to calculate the drainage areas.

The things that I found there were drainage areas of up to -- or working up from 60 acres as the smallest for individual wells were found. And rather than talk about specific wells so much, I'd rather say that the average drainage for all 14 wells that I found was 112 acres per well.

Q. This is close in line with what you were projecting in 1993; is that not --

A. Yes, it's very much in line. And I think the existing pool rules were established on 160 acres, even though 100 acres was projected, with the philosophy or idea that it could always be downsized if that appeared to be prudent. And that's where we think we're at this time.

Q. You originally were looking at a Hickory well. Have you estimated the number of acres that well may drain? Where is that well? In 17?

A. The Hickory well is in the north half of 17.

Q. And have you calculated the acreage that will, in fact, be drained by that well?

A. Yes, sir, I calculated 65 acres for that well. I think it's maybe that low because it's not been a really great producer.

Q. Based on this drainage information, do you believe it is appropriate to adopt rules for this pool that would permit no more than one well per 80 acres?

A. Yes, I think it would be very appropriate.

Q. Let's look at what has been marked as Yates Petroleum Corporation Exhibit 10, your drill stem test data. Can you review the information on this exhibit for Mr. Catanach?

A. Yes, Exhibit 10 shows a variety of information for different wells in the pool. Some aren't on the map because I took this information from PI cards for all wells in the area, trying to tabulate all DSTs available.

But among all of this information that's on the well, what I'm trying to point out here is the trend that can be seen in the dropping reservoir pressure as time progresses.

If you look under the "Spud" column, about the fourth from the left, you're given spud dates for each well. And then if you look at the shut-in pressures, which are over to the right side of the exhibit, the initial shut-in pressure and final shut-in pressure, you can see that from 1964 when the first wells were tested, there was normal pressure of about 300 p.s.i.

And then as time progressed, up to the latest wells, with the Brannigan Number 2 being shown as spudded

on October 30th of 1994, pressure was down in the 1700- to 1800-p.s.i. range, showing a steady or progressive drop in pressure over a period of time.

And in the early part of this time, there wasn't any significant production from this area. So it appears that most of this pressure reduction has occurred by production from the Indian Basin-Upper Penn gas wells that Brent referred to over to the north and west.

And it think it makes two points here.

First, that with the lower pressures, it's more support for going to a denser drilling so that we can get the lower-pressure reserves out.

And then secondly, I think it lends support to the fact that we're dealing with an associated pool.

Q. Mr. Stall, in fact, what we see from this pressure data is that there's pressure communication throughout the reservoir and pressures have been drawn down?

A. I think that's what it's showing us.

Q. And your testimony is that at this time with the energy that's been taken out of the reservoir to date, drilling on 80-acre spacing, a denser pattern, will in fact enable you to recover oil that otherwise will be left in the ground?

A. I think that's true.

Q. Going to a one well-per-80-acre effective pattern in this reservoir will, in fact prevent waste; is that right?

A. Yes.

Q. Yates is requesting that Rule 5 (b) of the General Rules and Regulations for Associated Oil and Gas Pools be deleted as it applies to this particular pool. Review your reasons for this request.

A. Okay. Presently, as you can see from Exhibit 5, I believe it was, the summary page, there are wells that have gas-oil ratios above and below the 30,000-to-1 defining GOR for a gas well in the pool rules. So that shows that there's, you know, definitely an established possibility that you can have wells classified as oil or gas within the pool.

Currently, I haven't recognized any wells within a spacing unit where you have both. So that's good, we haven't broken the rule yet.

But with additional development, and especially if we're successful in getting the drilling density increased to 80 acres, I think that's a very likely possibility.

So we're asking that that Rule 5 (b) be deleted now to avoid that situation when it probably arises.

And finally, in regard to this, I'd mention -- I

believe Mr. Kellahin did earlier too -- that this change was approved for the South Dagger Drawn in January 26th, 1994, and by doing it now we might avoid having to come ask to do it later.

Q. The fact is that if an operator gets an oil and gas well on the same spacing unit and this rule is not changed, that operator could find himself, could he not, in a substantial competitive disadvantage to other operators that offset him?

A. I think that he could, because by the terms of the rule, as I understand it, you can only produce the oil wells or gas wells on that spacing; and if you have both, you would have to forsake one of them.

Q. This potential problem can be avoided with the proposed change?

A. Yes, sir.

Q. And that can also avoid additional hearings concerning the rules in this pool; is that right?

A. Yes.

Q. All right. Other operators in the pool initially recommended a special oil allowable in the pool for 1400 barrels of oil per day. Does Yates support this oil allowable for the pool?

A. Yes, we do. And we have a couple of reasons for it.

Coming back to the basic fundamental premise is that it's the same reservoir as North and South Dagger Draw, so it seems that the same allowable would be appropriate for this pool as for those pols.

Secondly, on the IPs listed on the well summary sheet, and on some of the short-term production, can be seen that if we had four wells on a 320-acre spacing, we could exceed the 940 barrels of oil per day. And, you know, if we suppose that some lucky operator gets a combination of four wells on a 320 that will sustain this kind of production, then the increased allowable would be useful.

And finally, I might mention that the 1400 barrels per day is not very far removed from what would be provided under NMOCD Rule 505, standard depth bracket allowable, if we're successful in downsizing to 80 acres. In that situation, we would have four wells at 310 barrels of oil per day on a 320, which would give us 1240 barrels of oil per day as opposed to the 1400.

Q. Mr. Stall, Yates is requesting a special gas-oil ratio for the pool of 10,000 to 1. Could you summarize the reasons for that request?

A. Once again, this is a little bit of an issue of making the pools more equitable in the dolomite complex. The existing GOR of 2000 to 1 allows a 320-acre spacing

unit to produce 1880 MCF of gas per day, given the 940-barrels-of-oil-per-day allowable. This provides for 56.4 million cubic feet of gas per month from a 320-acre spacing.

North Dagger Draw has a limiting GOR of 10,000 to 1, with an allowable of 700 barrels of oil per day on a 160. But when you put this on a 320-acre basis, it provides for 14,000 MCFD or 420 million per month. So you can see at 56.4 million we're way behind the 420 million in Dagger Draw, North Dagger Draw.

And South Dagger Draw has a limiting GOR of 7000 to 1, with an oil allowable of 1400 barrels per day on a 320-acre basis. This provides for gas production of 9800 MCF per day on 320 acres, or 294 million per month.

So the numbers that come up are 56.4 million per month, for a 320 in the Indian Basin-Upper Penn Associated, 420 million for North Dagger Draw, and 294 million for South Dagger Draw.

Q. Now, if this change is adopted, what does that do to those numbers, if you go to the 10,000 to 1?

A. If you go to the 10,000 to 1?

Q. Uh-huh.

A. Let me find my notes here.

Q. Currently, I believe --

A. That's shown on Exhibit 9, and if we go to that,

1400 barrels per day that we've requested at 10,000 to 1, that would bump us up to something equivalent to North Dagger Draw with 14,000 MCFD or 420 million per month.

Q. So in essence what we're doing here is seeking an adjustment in the gas-oil ratio to bring this pool, this portion of the same dolomite complex, into line with the other pools in this same dolomite complex?

A. Right, once again, we are.

Q. In doing this, do you see any potential for reservoir damage or reservoir harm?

A. No, I don't think so.

Q. Mr. Stall, in your opinion, would adoption of special pool rules for this pool that provide the following things -- provide operators with needed flexibility to efficiently produce the reservoir, and I mean 320-acre spacing, remaining the designation as an associated pool, allowing for no more than one well per 80 acres, permitting simultaneous dedication of oil and gas wells, increasing the gas-oil ratio to 10,000 to 1, and establishing a special oil allowable of 1400 barrels of oil per day -- will that give operators needed flexibility to efficiently produce the reservoir?

A. I think it will, and the way I'd like to answer this question is that most of the production from the pool is associated with production of large volumes of water,

that Brent pointed out, and in order to get the gas, the water has to be sub-pumped.

And as a practical matter, controlling the gas production rates is not as simple as setting a choke and adjusting the gas-flow rate. It has to do with changing out the sub pumps at very large expense. The pumps are initially sized to try to lift as much fluid as they can, based on the tests, and if they have to be changed out, then a cost from maybe $50,000 up is required to reduce the oil rate -- I mean the water rate, thereby reducing the gas rate.

So I think raising the limiting GOR would provide a lot more operating flexibility.

Q. And then the other pool rules will bring the rules that govern this portion of this common reservoir into line with the other two oil pools or associated pools, whichever they are, in the reservoir?

A. Right, once again, this change would make the rules similar.

Q. In your opinion, is there sufficient data on the reservoir at this point in its life to justify adoption of these rules on a permanent basis?

A. I believe there is. We've had up to two and a half years of production from some wells and there are 14 wells producing out of the pool, so I believe there is.

Q. In your opinion, will adoption of these rules and development of the pool thereunder be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. I think it will.

Q. Were Exhibits 4 through 10 prepared by you or compiled at your direction?

A. Yes, sir.

MR. CARR: At this time Mr. Catanach, we move the admission into evidence of Yates Petroleum Corporation Exhibits 4 through 10.

EXAMINER CATANACH: Exhibits 4 through 10 will be admitted as evidence.

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

EXAMINER CATANACH: Mr. Kellahin?

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Stall, so I can have you help me find some of these wells, if you'll use Exhibit 4, which is the locator map, I wanted to address with you the current limiting GOR of 2000 to 1.

For a 320 spacing unit, then, an operator of a spacing unit would be limited to 1.8 million a day for that spacing unit?

A. That's correct.

Q. Within any of the existing spacing units, do we have wells that are being curtailed because they can't exceed the 1.8 million a day?

A. No, I don't believe we have wells that are being curtailed. But unfortunately, there are a few wells that are producing above this map, at this time with this 2000-to-1 GOR.

Q. And as I look at the map, the Exhibit 4, do the red well symbols indicate the producing oil wells in the pool?

A. That's correct.

Q. And within a given spacing unit -- I see Section 9, the west half of 9 is an example of two wells in a spacing unit?

A. It is.

Q. It would appear that if the gas limit is 1.8 million a day, there is very little economic incentive for Yates or any other operator to drill the increased density well, because you're going to hit the gas allowable limit in the pool very quickly at the current rate?

A. I certainly agree with you.

Q. When you increase it to 10,000 to 1 to make it equivalent with the other pool rules for this same reservoir, then you're going to be allowed to produce --

What is it?

A. 414,000 per day on the 320.

Q. Yes, right, it would go up to -- You get 14 million a day?

A. Right, 14 million a day, all right.

Q. And that would put you in the same economic incentive categories as the operators enjoyed in South Dagger Draw when they were dealing with that issue?

A. Yes, I think that's right.

Q. In South Dagger Draw, one of the primary reasons to increase the gas limit was to provide an economic incentive. Have you seen in that pool that that gas-oil ratio has caused any reservoir damage or harm?

A. I haven't, but I cannot testify that I've examined that in any depth. I'm not that familiar with South Dagger production.

Q. Let's look at the associated pool, though, that you are familiar with. Do you see any potential reservoir harm for increasing the GOR?

A. No, I certainly don't.

Q. When we look at your pressure data, it would appear to me that the pressure in the reservoir has been drawn down low enough that it's now impossible to attempt to conserve reservoir energy by keeping the gas-oil ratios low; is that a correct understanding?

A. I think that's reasonable, yes.

Q. And so by increasing the gas-oil ratio, we would provide an economic incentive for drilling more wells, and correspondingly, we would not be wasting reservoir energy?

A. Yes.

Q. When we look at the oil rate, the current oil rate is 940 a day per spacing unit?

A. Yes.

Q. Do any of your spacing units currently exceed that limit?

A. No, I don't believe any do. If we did have -- if we did develop on 80s with four wells per 320, we might be able to exceed that level.

Q. I made a quick check of the west half of 9, and it appears to me that those two wells are each producing about 200-plus a day. I took it off of the table, which was Exhibit Number 5, and I simply turned to --

A. -- pages 12 and 13?

Q. I was looking at pages 11 and 12.

A. Okay, you're right, yes, sir.

Q. And on page 11, that well, for December, on a daily average, is about 200 barrels of oil, and it's making about 3000 barrels of water?

A. That's correct.

Q. And if we turn over, then, to the other well in

the spacing unit for which it has to share its allowable -- Let's see, in December you had 3186.

A. About 100 barrels per day.

Q. It's about 100 barrels of oil. And then the water --

A. 2500.

Q. Yes, sir, about 2400, 2500. So if you've got 940 a day, and you've already used up 300, you only have 640 in the spacing unit, and yet you could have two more wells?

A. That's correct.

Q. Do you have --

A. I agree.

Q. Do you have a sense, Mr. Stall, of what Yates uses for a generic threshold when you're looking at initial rates in order to have an economic incentive to drill wells for this kind of expense, recognizing that you're going to have to move 2000 to 3000 barrels of water in association with that production?

A. That's a hard question. And no, I can't say that I do. I think it would have to be examined on the basis of the well and whether or not lifting all of the water -- examining the economics for that particular well, all lifting and handling of the water would be affordable with the amount of oil and gas that came with it.

Q. If you'll look on Exhibit Number 6, which is the

spreadsheet of wells and their initial test rates, your newest well appears to be the Atom ANT Federal Com well. It has a completion date of February of 1996. It's in Section 10.

A. Yes.

Q. The rate on that well was initially 456 barrels of oil a day?

A. That's right.

Q. What is your sense of -- And I see the rest of these initial rates. What is your sense of the general initial test rate for oil production of these wells?

A. I think the best way I can answer that is in doing the drainage calculations. What I found to be generally true was that the wells -- the oil production on the wells is declining at a rate of about 40 percent per year, so it's very rapid. And in the case of this Atom ANT, it's produced intermittently since the time it was tested, and its production has fallen down a fair amount since that time.

Q. When you look at a typical production decline curve for these wells, what kind of shape does that curve take?

A. Well, with the limited amount of production, two and a half years. The way I declined them was exponential.

Q. Okay.

A. I didn't see enough character in the curve to try to go with anything any more exotic.

Q. The percentage of decline is what, again?

A. Forty percent.

Q. Pretty steep decline, then, for this type of production?

A. Yes, it is. Economics -- It makes the economics pretty tough.

Q. When you're looking, then, at your drainage calculations, no well was constrained in terms of the amount it could produce by a regulatory rule?

A. No, I don't think so.

Q. All right. So you were dealing with the ability of those wells to produce at its most efficient rate without some kind of limiting regulation?

A. I think that's true.

Q. And in doing so, then, you found the drainage on average was 100 to 120 acres, I think you said, something like that?

A. 112 was the average that I came up with.

Q. 112?

A. Right, for the 14 wells.

Q. So if we increase the oil allowable to 1400 a day, we're not creating a chance where an individual well is likely to lead to produce that rate?

A. I don't think we've seen any evidence that would support that idea right now, to this point.

Q. The best well in the pool is that Marathon one, I guess, in 1995. Its initial test rate, in terms of judging it in that way, was 624 a day?

A. Yes, but I understand that well has also not sustained that level and has fallen down too.

Q. All right. The current 940 is not intended to limit oil rate so that it minimizes drainage, is it?

A. I'm sorry, would you say that --

Q. Yeah, the current oil rate for 320 spacing is 940 a day?

A. Uh-huh.

Q. That can be produced out of any single well?

A. Yes.

Q. And there's not a well in this pool that will do that?

A. That's right.

Q. Nor likely to be?

A. I don't think so either.

Q. So what's the purpose of the current 940?

A. The --

Q. Beats me, I'd like to know.

A. Well, the top -- What's the purpose, or --

Q. Yes, sir.

A. -- where did it come from?

Q. Is there a reservoir-engineering purpose for 940 a day?

A. I don't think that particular number is holding back our production. I think we have to have an allowable. It does define how much gas can be produced, and I think that's more of the problem, is that if you have a lower top oil allowable, then -- with -- when you apply the GOR, it gives you a lower amount of gas that you can produce.

Q. All right. When you're looking at an oil rate as a regulatory control mechanism to protect correlative rights and prevent waste, 940 a day is not doing anything, is it?

A. I don't think it is.

Q. Nor would there be harm in raising that to 1400 a day either?

A. Right, I see what you're saying and I agree.

Q. So 1400 a day would provide an economic threshold for these operators as an incentive to go out and do these wells?

A. Well, possibly. It definitely would help allow the possibility -- or allow the capability to produce up to that amount, if you did happen to get four really good wells on a 320, and then it does help to hold up the amount of gas that can be produced by applying the GOR.

Q. All right. Am I correct in understanding, then, as a reservoir engineer, you see no purpose for limiting oil production to 940 a day in a spacing unit?

A. No.

Q. All right. Let's do the calculation, then. If it's 1400 a day oil, plus the 10,000-to-1 GOR, now we're up to 14 million a day of gas?

A. Right.

Q. And you as a reservoir engineer are going to be particularly concerned about gas withdrawals in any kind of reservoir, aren't you?

A. Yes.

Q. And in your analysis of this reservoir, 14 million a day is not inappropriate?

A. No, I don't believe it's inappropriate. I think it is appropriate.

Q. All right, by increasing the GOR and the oil rate, do you see any opportunity for violation of correlative rights by creating excessive drainage within a -- from a spacing unit to an adjoining spacing unit that cannot be countered with corresponding drainage?

A. No, I really don't.

Q. You don't see that problem, do you?

A. No, I have to say that we've seen the effects of the other wells in pulling down the pressure, but I don't

think that we would see a problem of damaging correlative rights by downsizing.

Q. Well, and the pressure being drawn down is outside of this particular associated pool, isn't it?

A. I think the wells were, yes.

Q. So dealing with pressure is beyond the control of this pool, because in your opinion it's being taken out of the gas reservoir? The Indian Basin Gas Pool, I thought you told me, was --

A. I think that's right.

Q. -- the likely place where the gas is being drawn down that explains the drop in pressure?

A. I think that's a source of pressure drop.

Q. All right. Am I correct in understanding that the operators unanimously support the changes that you're proposing today?

A. As far as I've heard. I have not heard of any objections.

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Stall, are there other operators in the pool besides the ones that are present here today?

A. The only other operator that I'm aware of is Nearburg.

Q. Are you aware of any opposition to these proposals --

A. No, sir. I believe Bill has mentioned that they might support, but we've definitely not heard any opposition.

Is that right, Bill?

MR. CARR: We've contacted them. They were going to look at the proposal. The contacts were about the first of March. We then sent them a proposal. We've heard nothing since then.

Q. (By Examiner Catanach) Okay. Mr. Stall, have you looked at drainage areas of wells in the South Dagger Draw?

A. No, I haven't done that personally.

Q. Do you know if the drainage areas in the Indian Basin are similar to those in the South Dagger Draw?

A. I think they would be, due to the similarity of the reservoirs for one thing, a similar type of production, the characters that Brent addressed, porosity, permeability.

Q. To your knowledge, do the South Dagger Draw pool rules limit drilling to one well per 80?

A. Difficult to answer quickly. The things that I've heard about it and I'm aware of comes from testimony and things I've heard the other engineers that I work with

talk about, that you might see some influence by wells on 40 acres, but that there is not any damaging drainage. Does that answer your question?

Q. Well, the South Dagger Draw has been effectively developed on 40-acre spacing, has it not?

A. Right.

Q. Why do you want to limit -- in the Indian Basin, why do you want to limit that to 80-acre spacing?

A. Oh, I see what you're asking. Well, I've asked for 80 because that's what I calculated, that's what I came up with for this pool, and I think it will be sufficient to develop the pool.

I don't -- After having looked at it quite a bit, I don't think that 40-acre development would be that damaging either. But we're here asking for 80, yes, that's what we've calculated and what we're proposing.

Q. Your drainage calculations, did you say your smallest drainage area was 60 acres, approximately?

A. That's right.

Q. You didn't present the drainage data you testified to. Is that available to be presented as evidence?

A. No, I didn't bring exhibits for it, but I have calculations that I can provide you.

Q. Okay, I think that that would be beneficial to

us, to look at this. So if you can provide that --

A. Sure.

Q. -- that would be good.

The other issue I wanted to talk about was the gas-oil ratio. You've got -- In the South Dagger Draw Pool you've got a GOR of 7000 to 1, which -- you know, South Dagger Draw is more closely located to the Indian Basin than North Dagger Draw is.

Do you have a reason as to why you couldn't go with 7000 to 1, or even a smaller GOR, in the Indian Basin?

A. I think only insomuch as what we would have on the amount of gas that's being produced from the wells now, and what a combination of four wells might produce.

In this tabulation, there are wells that have produced as much as 100 million a month, and if you had four wells on a 320, that would put you up into this range of -- you know, almost 420 million per month that you would get with a 10,000-to-1 GOR.

So I think from that aspect, that's why we would like to see 10,000 to 1. If it were lower, it might lead to a situation where the production is greater than what's provided for again.

Q. I believe you testified that the -- I guess the only two-well unit in the pool is the one in Section 9?

A. That's right.

Q. And those two wells combined are still under the 1.8 million a day currently allowed; was that your --

A. No, I don't think that they are, to be honest about that. The 1.88 million a day would allow for 56.4 million per month per 320, and the Anemone Number 1 and Number 2, which are the wells in the west half of Section 9, add up to more than that amount. If you look, for instance, at the December number, Anemone 1 is 21 million, and Anemone 2 is a little over 79 million.

Q. I'm sorry, what are you looking at?

A. I'm sorry, I'm referring to this Exhibit Number 5 on page 11 and 12 again.

Q. Okay. So you're looking at 21 and 79, basically?

A. Yes, sir.

Q. Are those two wells two of the higher gas producers in the pool?

A. No, actually they're not. Let's see, we could go back to -- trying to go from memory here -- to the Brannigan Number 2 on page 14. It's a pretty good producer, and it looks like it's made -- currently making about 53, 54 million for the recent months, but it's been up to 80 million a month.

Then I think one of the Santa Fe wells was also a pretty good gas producer. Jones Canyon 4 Fed Number 1 on page 10 had recent production of 96 million.

Q. Mr. Stall, is it likely that you would actually need the 420 million a month allowable or that you would --

A. I think you very well might. If you continue to look at this page 10 for the December number and you're talking about 96 million for this one well on the 320, if you had four wells on the 320, if we downsize, then you would be pushing 400 million for that month, so you would be right at that threshold. Is that not right?

Q. It looks like -- Talking about that well, the Jones Canyon 4 Federal Number 1, it looks like that 95 number is kind of an anomaly.

A. Anomalous? Okay, those numbers do crop up. If you go back to Anemone Number 2 on page 12 again, jumping around here quite a bit, and you look at, say, July, August, September, October, November of 1995, you see numbers from 72 to 111, 97, 88 and 89, sustained numbers that are not far below that 100 million.

Having a lower GOR might not impede production -- or might not hold back production, but I think that that is a -- you know, a true number, that in this situation, the gas limit is more likely to be reached than the oil limit that Mr. Kellahin was talking about, you know, or brought up.

Q. And it's your opinion that a GOR of 7000 or 10,000 will not harm the reservoir?

A. I don't believe it will, the way it's -- the way they're produced. The fact that you have to move all the water to get the gas, I don't think there will be any damage done, and it's similar to what's occurring, as far as I know, in North and South Dagger, and I don't believe anyone thinks that there's any damage occurring there either.

Q. You don't feel like it's going to reduce the oil recoveries?

A. No. I think it might help it. I think it might utilize that pressure that we still have in the reservoir to bring it out quicker while the pressure is there.

EXAMINER CATANACH: Mr. Carr, I believe that's all I have.

MR. CARR: That concludes our presentation in this case, Mr. Catanach.

EXAMINER CATANACH: Is there anything further?

Mr. Carr?

Mr. Kellahin?

Mr. Bruce?

MR. KELLAHIN: No, sir.

MR. BRUCE: Mr. Examiner, I was going to mention that yesterday Santa Fe Energy informed me that -- and I don't remember which well it was; it was in Section 7 or 8 -- they acid-frac'd it. It was a relatively poor well,

and it has been producing at rates of about 5 million cubic feet a day.

MR. STALL: That's probably the old Ranch Canyon 7 Fed Number 2.

MR. BRUCE: I think so, but I don't recall.

MR. STALL: That well showed up recently as testing.

EXAMINER CATANACH: Okay, there being nothing further in this case, Case Numbers 11,484 and 10,748, reopened, will be taken under advisement.

(Thereupon, these proceedings were concluded at 11:50 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11484 10748 heard by me on March 21 1996.

David R. Catanach, Examiner
Oil Conservation Division

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 March 31st, 1996.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998