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:	)	CASE NO. 12,006
APPLICATION OF MARATHON OIL COMPANY, YATES PETROLEUM CORPORATION, ORYX ENERGY COMPANY, DEVON ENERGY CORPORATION (NEVADA) AND SANTA FE ENERGY RESOURCES, INC., FOR THE EXPANSION OF THE INDIAN BASIN-UPPER PENNSYLVANIAN ASSOCIATED POOL AND THE CONTRACTION OF THE INDIAN BASIN-UPPER PENNSYLVANIAN GAS POOL, EDDY COUNTY, NEW MEXICO	)	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

July 9th, 1998

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, July 9th, 1998, 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.

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I N D E X

July 8th, 1998
Examiner Hearing
CASE NO. 12,006

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A P P E A R A N C E S

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ALSO PRESENT:

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* * *

WHEREUPON, the following proceedings were had at 1:35 p.m.:

EXAMINER STOGNER: This hearing will come to order.

At this time I'll call Case Number 12,006.

MR. CARROLL: Application of Marathon Oil Company, Yates Petroleum Corporation, Oryx Energy Company, Devon Energy Corporation (Nevada) and Santa Fe Energy Resources, Inc., for the expansion of the Indian Basin-Upper Pennsylvanian Associated Pool and the contraction of the Indian Basin-Upper Pennsylvanian Gas Pool, Eddy County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of the Applicants.

EXAMINER STOGNER: Other appearances?

MR. CARR: May it please the Examiner, my name is William F. Carr. I'd like to enter our appearance for Yates Petroleum Corporation.

EXAMINER STOGNER: Other appearances?

How many witnesses do you have, Mr. Kellahin?

MR. KELLAHIN: Three witnesses, Mr. Examiner.

EXAMINER STOGNER: Do you have any witnesses, Mr. Carr?

MR. CARR: No, sir.

EXAMINER STOGNER: Okay, will the witnesses please stand to be sworn at this time?

(Thereupon, the witnesses were sworn.)

MR. KELLAHIN: Mr. Examiner, our first witness is Mrs. Denise Cox.

DENISE M. COX,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mrs. Cox, would you please state your name and occupation?

A. My name is Denise Cox. I'm a geologist for Marathon Oil.

Q. And where do you reside?

A. I live in Midland, Texas.

Q. On prior occasions have you testified as an expert in petroleum geology before the Division?

A. Yes, I have.

Q. Among your duties as a petroleum geologist for Marathon, have you made an investigation of the geologic data concerning Indian Basin Gas Pool, South Dagger Draw, the Indian Basin-Upper Penn Associated Pool?

A. Yes, I have.

Q. As part of that geologic study, have you come to geologic conclusions with regards to an appropriate solution by which certain acreage is deleted from the Indian Basin-Upper Penn Gas Pool and put into the Indian Basin-Upper Penn Associated Pool?

A. Yes, I have.

MR. KELLAHIN: We tender Mrs. Cox as an expert petroleum geologist.

EXAMINER STOGNER: Mrs. Cox is so qualified.

Q. (By Mr. Kellahin) Let me direct your attention to your first exhibit. It's marked as Exhibit 1. And to orient the Division Examiner, would you identify for us what you have indicated by the color coding on Exhibit 1?

A. Yes, Exhibits 1, 2 and 3 are to provide background on the case, and in Exhibit 1 the area shown in blue is the Indian Basin-Upper Penn Gas Pool, the area shown in the light green is a portion of the South Dagger Draw-Upper Penn Associated Pool, and the area shown in the light brown color is the Indian Basin-Upper Penn Associated Pool.

Q. To the best of your knowledge and information, is this a correct and accurate depiction of what you believe to be the current boundaries, so far as they're represented on this display for these three pools?

A. Yes, sir, it is.

Q. Let's set that locator map aside for a moment and make a comparison now by having you direct your attention to Exhibit Number 2. On Exhibit Number 2, what changes have you made and illustrated on this exhibit that are different from those shown on Exhibit 1?

A. Exhibit Number 2 outlines what we call the expansion area of the Indian Basin Associated Pool. This area shown in the brown hachured lines would be the area we will provide testimony, geologic and engineering testimony, that it should be more -- should be put in the Upper Penn Associated Pool.

Q. Let's set those two aside and look at Exhibit Number 3 and have you identify and describe what you're illustrating here.

A. For your convenience, Mr. Examiner, we have blown up the portion of the associated pool in the extension area and the offsetting Indian Basin Gas Pool so that you can see the operators and the lease name and the well numbers.

If you look at the bottom of each lease you'll see the operator name first, a hyphen and then a lease name.

Q. Are all the Applicants in the case before Examiner today represent all of the operators within the area you've identified as the proposed extension area?

A. That is correct.

Q. All right, let's set Exhibit 3 aside for a moment and have you look at Exhibit Number 4 and again take a moment and identify for us the color code and what you're representing.

A. Mr. Examiner, Exhibit Number 4 is to provide you a little history and perspective of the Indian Basin area. What I'd like to do is start with the gas pool and move across the map and talk to you about what is on this map so that you can be on the same page as we are.

The first thing we'll look at is the area outlined in blue. This is the original Indian Basin-Upper Penn Gas Pool. This was an area that was created in March, 1963, and prorated later in July of 1965.

There are currently 50 wells producing, and the rules, the special rules that were assigned for this is 640-acre spacing, 1650 setbacks and 6.5 million gas proration units.

Q. I think you misspoke. The boundary as depicted here represents the current boundary of the gas pool, does it not? That boundary has been changing over time, hasn't it?

A. That's correct.

Q. So what we're seeing here is not the original full extension of the gas pool but how it is configured now.

A. That's right. And later on you'll hear engineering testimony. We do have an exhibit that shows the original extent of the Upper Penn Gas Pool.

Q. As we focus our attention on the gas pool as it's configured now, you have two different color codes for the wells. What does that mean?

A. What we're showing here is, there are two types of wells that are currently producing in the Upper Penn Gas Pool. The pink or light red color is the flowing gas wells in the Upper Penn Gas Pool. The light orange color are wells that are on artificial lift and that are only producing because we are artificially lifting the water to produce the gas.

Q. Let's look at the summary of the rules and the producing characteristics for the South Dagger Draw-Upper Penn Associated Pool, which is north of the gas pool.

A. Yes, that would be the area that's outlined with the green boundary, and it also has the predominantly green-colored production dots.

This is an area that was created, and special rules were adopted in February of 1977. I believe that was Order 5353. And at that time we had 320-acre proration units with 660-foot offsets and allowables of 1400 barrels of oil a day, a GOR of 7000 to 1.

And what's shown here is that these wells

predominantly produce oil, with associated gas and water. And unique to the South Dagger Draw area and the Dagger Draw field at this time when it was brought in, in 1977, is that you need to lift large volumes of water to get the hydrocarbon production.

I looked at the statistics as of the end of June, 1998. At that time 130 wells were producing from the South Dagger Draw oil field. This map only shows a portion of the South Dagger Draw field.

Q. Let me have you focus your attention on that portion of the display that shows the area that is currently in the Indian Basin-Upper Penn Associated Pool. Again, describe for us how that boundary is identified and tell us something about that pool.

A. The Indian Basin-Upper Penn Associated Pool is the area outlined with brown, and in it you can see predominantly, again, oil, the symbol -- the green symbol indicating oil -- and gas and water production. There are also wells that do produce predominantly gas in that area.

This area was -- The associated pool was established in 1992 when Yates Petroleum re-entered the Hickory ALV well in location F, 17-22-24, and based on testimony at that time, in 7 of 1993, Order 9922, they found similar dolomite geology, similar gas and oil gravity, and they adopted special rules to form the

associated pool. And those are 320-acre proration units, 660-foot offsets, and 1400 barrels of oil a day allowables, 7000 GOR.

Q. The geologic characteristics in the Indian Basin Associated Pool are similar to which pool?

A. The South Dagger Draw Pool, the Dagger Draw Pool in general.

And what you bring up is that we have to produce large volumes of water in the associated pool to produce any hydrocarbons, and these wells are on artificial lift.

Q. Let's look at the proposed expansion area, and I'm going to ask you to divide it into two portions. I'd like you to look at that area in the north. It's represented within the Township 21 South, 24 East. Do you see that portion of the expansion area?

A. Yes.

Q. Identify and describe for us the manner in which the wells in that portion of what is currently gas pool wells have been produced.

A. The wells in the 21-24 area of this expansion area traditionally produced as gas flowing wells. When these wells watered out, they were shut in.

Recently, a number of the wells have been re-entered, have been put on artificial lift, have moved high volumes of water to re-establish gas production.

Q. Has that afforded an opportunity, by moving large volumes of water, to produce gas that would not otherwise be produced?

A. That is correct. These wells were shut in until we put them on artificial lift.

Q. Has it been typical or characteristic of the gas pool wells that over time, once they ceased flowing naturally, that they were abandoned?

A. That's correct.

Q. And what, then, happened?

A. From that point you have to build infrastructure, put in facilities, put the wells on artificial lift, move the water, wait for a period of time for the gas to come back on.

Q. Let's look at the second portion of the expansion area. I'm going to call it a transition area for lack of a better term, but what I'm looking at is the vertical stacked row of sections which we propose to be divided vertically, half of which would go into the associated pool, the other half of which would remain in the gas pool and be classified as nonstandard gas proration units in the gas pool. Do you see what I'm looking at?

A. Yes.

Q. Describe for us that transition area.

A. This half-section transition area, these are

wells that have -- were producing -- flowing gas wells, producing, that have watered out. The wells in the Indian Basin area water out from east to west. And these wells, as they have watered out, have been put on artificial lift and again resumed production.

Q. The Division in the last few years has, on an individual basis, often looking at a single section, had hearings before the Division Examiners to determine if sections should be taken out of the gas pool and added to the associated pool.

A. That's right.

Q. To avoid that sort of piecemeal boundary adjustment of the pools, have Marathon and the other operators that are affected by this Application met to talk about this issue?

A. That's correct. The five operators that are involved with the Indian Basin Associated Pool have been in informal contact over quite some time, but we had a meeting in March of 1998 where we could specifically discuss which sections at this time, to the best of our knowledge, should be brought in to the associated pool.

Q. Did that discussion include the opportunity to exchange technical information and data among the various experts from these operators?

A. Yes, it did, it included discussions with our

geologists, our engineers and our land people, and we were able to come to a number of conclusions.

Q. As a result of reaching those conclusions do you have unanimous agreement of all the operators --

A. Yes.

Q. -- to make this comprehensive adjustment in the pool boundary?

A. The hachured area, what we're calling the extension of the associated pool, is where all five operators could come into unanimous agreement.

Q. That agreement and the unanimous agreement of the operators is based upon what following reasons and conclusions?

A. Yes, there are a number of conclusions we came up with. Unanimous agreement came upon for several reasons. It gives the OCD the opportunity to review the case on a regional basis and allows for more systematic and organized development of the associated pool.

Second, agreements are in place so that parties receiving payments on the 640 will receive the same payments if we go to 320-acre proration units.

Third, the geologists and the engineers were able to come to agreement based on the data that this extension area had characteristics similar to the associated pool.

Fourth, the operators and owners will be in the

same competitive position and will be able to protect correlative rights with this extension area.

Fifth, these half sections, what we're calling this transition area between the gas pool and the associated pool, helps establish equity between the two pools and again helps us protect correlative rights.

And may I add one more thing?

Q. Yes, ma'am.

A. The extension of the pool is going to allow the operators in the State of New Mexico to recover additional reserves, and I'd like to briefly explain a little about the producing mechanism out here.

If we can go to reduced spacing, we can increase the number of wells we have. When we increase the number of wells, we can increase the amount of water we can move off the leases. Dewatering these leases is critical for us to produce hydrocarbons.

And I'd like to say, dewatering is not an on-again, off-again process. Once you put these wells on and you start moving the high volumes, 3000 to 4000 barrels of water a day, then you can finally establish drawdown on these wells to release the hydrocarbons.

We need the higher allowables of the Dagger Draw rules to allow us to continue this pumping process. If we have to shut the wells in because of allowable limits, we

start from square one.

So it does make sense for this extension area to be treated as the associated pool, so we can get these reserves.

Q. Let me ask you to direct your attention to the geologic components of the presentation, and let's start with what is marked as Exhibit Number 5. Before we talk about the conclusions and opinions you've reached, let's take a moment and have you describe what we're seeing.

A. Exhibit Number 5 is a little complex diagram, but it's got all the information that you need to think about this Indian Basin complex.

What's shown in gray on your Exhibit 5 is all the nonreservoir limestone. So this is the area we can exclude from our picture to understand the existing pools that are there.

The area that is white and shaded can be broken down into three areas. If we start at the top, the white area, that is the portion of the South Dagger Draw field that's currently producing at approximately 1100 pounds of pressure.

If we move to the south, the area that's shaded pink is the wells that are flowing gas wells in the Indian Basin-Upper Penn Gas Pool. That portion of our reservoir is at about 600 pounds.

If we move over to the east in the area shaded in the light brown color, that's the Indian Basin Associated Pool and the extension area that we're discussing, and that area is at about 1600 pounds of pressure.

Underlying all the color coding is a structure map on the top of the Upper Penn, and this is where we can talk a little bit of how the geology fits into the division of these pools.

You can see on the west side of Exhibit 5 the fault that bounds the Indian Basin-Upper Penn Gas Pool, the original bounding fault of the field, and then the structural contours closing at about minus 2800.

As you move downdip, as we go to the east to the associated pool, we can see again two more small closures there at minus 3500. And what you can envision -- and we'll demonstrate this later on a cross-section -- is that you have a high structure, it goes through a saddle and then comes back up on a second structure.

Q. When we look at the gas pool, as it's now represented on here, is there a relationship to water, gas-free -- I'm sorry, water-free gas production and gas that is associated with water?

A. Yes, when we were talking about the two areas, between the pink and the yellow you can see there's a white strip through there. We call that our co-production area.

That is an area where we have to put the wells on artificial lift, move water to make gas.

Everything to the west is flowing, everything to the east is again on artificial lift. But we have the potential to produce oil, gas and water over in the associated pool area.

Q. Let's look at the original associated pool area, excluding the proposed expansion area, and describe for us the geologic justification for having that as a pool separated from the gas pool.

A. This area of the associated pool is a separate geologic structure. You can see we have closures at minus 3500 feet subsea elevation, and that is distinct from the area to the -- the Indian Basin Gas Pool, which closes at minus -- well, much, much higher elevations.

Q. What is the geologic reasons for including the expansion area in 21 South, 24 East, as part of the associated pool and taking it out of the gas pool?

A. The structure of the associated pool and the extension area really can be mapped as one entity. At this time that is our best way to define a western boundary of the associated pool.

Q. Is it logical at this time, based upon current available information, to put the western boundary of the associated pool as you have proposed to place it by this

Application?

A. At this time that's the best decision we could unanimously agree on.

Q. Give us an explanation of what has occurred over time with the water issue in Indian Basin.

A. The water in Indian Basin on a whole, on a regional basis, is moving from the east side of the associated pool to the west, so you actually have high water production in the Indian Basin Associated Pool, the proposed extension area and the white zone, the co-production zone.

The water has not yet reached the area that's been shaded in pink, or has not significantly reached. We're still able to produce the wells as flowing gas well.

Q. Let me direct your attention now to Exhibit Number 6, and would you identify that display for us?

A. This is a similar display to Exhibit 5, except that we've got a cross-section, C-C', drawn from the gas cap -- gas pool, over to the associated pool. It contains 15 wells, and with these we can -- on the cross-section we can illustrate production from the gas pool and from the co-production zone and from the associated pool.

Q. All right, let's take a moment and put the large cross-section up so that you can illustrate your point.

All right, Mrs. Cox, if you'll turn your

attention to what we've marked as Exhibit 7, lead us through a discussion and an orientation as to what you're describing with the cross-section in terms of the geological and structural differences between the pools.

A. Mr. Examiner, this is a cross-section that runs from the west side of the field to the east side of the field. It comes from the highest point of the gas pool, through the transition area and then over to the associated pool.

I've color-coded on your copies and our copies the reservoir portion, highlighted in the purple color, and I've highlighted porosity in red so you can see reservoir development.

What I'd like to call your attention to is that we can distinguish the Indian Basin-Upper Penn Gas Pool from the Indian Basin-Upper Penn Associated Pool if we look at the structure.

So what you see on the west side of the gas pool, you have one structure. This is hung on a structural datum, minus 3500, and you see one structure here.

As you move through the transition zone you can see it dips down into a saddle. This is where we're asking -- That is the half-section point on your map.

And then it comes back up again, and there's a secondary structure here, over 70 feet of relief, that

forms the associated pool structure, and then it falls off to the east.

EXAMINER STOGNER: Okay, let's go back. When you say it falls off "here", which well are you referring to?

THE WITNESS: Okay, I'm sorry. The transition zone comes in right between the Oryx Lowe State Number 2 and the Oryx Lowe State Number 1. You can see it comes off the structure, and the Lowe State 1 being at this cross-section, the lowest point.

EXAMINER STOGNER: And you're -- That's Well Number 7?

THE WITNESS: I'm sorry, Well Number 7 on your cross-section --

EXAMINER STOGNER: Okay.

THE WITNESS: -- that's correct.

Q. (By Mr. Kellahin) And do it again for the record so that we know the numbers in relation to the move upstructure.

A. Yes, Wells Number 1 through Number 6 are most closely associated with the Indian Basin-Upper Penn Gas Pool.

As we move to Well Number 7, that would be in the saddle on the structure map, on the top of the upper Penn, and this would be our transition area, coming back up the Oryx Lowe State Number 3, that's Well Number 8 through

Number 15, the wells more associated with the Indian Basin-Upper Penn Gas Pool.

If we look at the production that we get off this cross-section, you can under- -- it will help put it in perspective, the gas-producing wells, versus the gas-and-water-producing wells, versus the wells that have the potential to produce oil.

All the wells in the area from 1 to 6 are gas-productive wells only. The wells highest on structure are producing water -- or flowing gas wells. As you come down the structure, the wells are on artificial lift. These wells are watering out east to west.

So you move through the transition, come back up on structure, the wells in the highest at this time are producing predominantly gas and high volumes of water. As you move downstructure, this is where we pick up the oil in the associated pool.

So all the wells do have the potential to produce hydrocarbons in the associated pool and in the hachured area, the extension area.

Q. Thank you.

Can you summarize the geologic criteria for moving this acreage from the expansion area, extension area, into the associated pool?

A. The geologic criteria are actually quite simple.

We have two separate structures with a saddle in between at a subsea elevation of about minus 3500. We have pulled the extension area to meet that minus-3500 saddle area; and secondly, the potential for the reservoir to produce oil, hydrocarbons, to the east in the associated pool.

Q. Do you have an opinion as to whether or not the proposed boundary will be adjusted in the future, and if so, what geologic criteria, if any, should be used?

A. I think as we continue to develop this area and gather data, we will continually revisit the best way to produce this reservoir.

I don't think the geologic structure map is going to change as we get additional data, but I think our understanding of the producing mechanism and the most efficient way to produce this reservoir will be evolving, and at that time I would hope that the operators can get together again and unanimously agree on any future changes that need to be made.

And I'd like to say that it is -- the geology for the entire Indian Basin complex, Dagger Draw, the Indian Basin Gas Pool, Associated Pool, is about the same. But how that reservoir produces, the producing mechanism, is what varies. And those are the arguments that are probably going to come up in the future, should pool rule change.

Q. Have you had an opportunity to review this

presentation with the District Supervisor of the Division in the District?

A. Yes, we had a chance -- Indian Basin safety meeting, where we were able to go over to Artesia and meet with Tim Gum and Bryan Arrant and discuss the entire geological and engineering argument with them, and they were in agreement that this was a very reasonable way to change the pool rules.

Q. You made not only the geologic presentation but the engineering presentation to Mr. Gum and the geologist?

A. We made the geologic argument we have heard today, and we made a majority of what -- the engineering argument that you'll hear later today.

Q. All right. And there was no opposition to approval by the Division?

A. No, sir.

MR. KELLAHIN: That concludes my examination of Mrs. Cox, Mr. Examiner.

We move the introduction of her Exhibits 1 through 7.

EXAMINER STOGNER: Exhibits 1 through 7 will be admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. Ms. Cox, the way I understand this, on your

cross-section --

A. Uh-huh.

Q. -- this is a hydrodynamical environment, right?

A. There is active water flowing. Whether you can document hydrodynamics is debatable.

What it is, it's a dual-porosity system, it's a vuggy, fractured carbonate. You're able to move large volumes of water through that, through the natural development of the field. Whether or not there's actually a potentiometric head that causes water to move through the formation is debatable.

Q. What's your opinion?

A. Given the light API gravity of the oil and the gas situation, I don't have enough geologic evidence to support hydrodynamics.

There is evidence in the literature that there does exist a potentiometric head from west to east that can move water.

What we see in the production of this field is, water is actually moving from east to west. That's why I state that it is not clear how hydrodynamics affect this field.

Q. Well, that's where I was going with this. If you've got this high coming into the saddle, and the oil is far back over to the east, what's the potential of these

wells in this new area of ever producing oil?

A. It has to do with the amount of reservoir that is available -- that's shaded purple -- approximately 400 feet or greater, that can be put in an elevation where hydrocarbons are present.

If we use a reasonable estimate of oil contact -- and in this field it's very difficult to come up with a number to hang your oil-gas contact on, of about minus 3900, then with 400 feet of reservoir, from minus 3500 to minus 3900 at the base of your dolomite reservoir, you do have the potential of producing oil.

Q. Well, let's focus in just on the associated pool and go down to the -- oh, just sort of an arbitrary line, like through Section 8, 5, 33 and 27, where you have predominantly oil back to the east. Have you had any of those wells on the east side of that arbitrary line that go from gas to oil?

A. I'm sorry, I didn't have my map out when you were saying an arbitrary line. Can you --

Q. Okay, I'm just kind of -- I've got Exhibit Number 3 in front of me here --

A. Number 3.

Q. -- and I've got the oil wells identified as solid black lines --

A. Oh, okay, I see.

Q. -- like in Section 17, 7 and 8 -- I'm sorry, Section 8 and 17 there's a couple of oil wells there, Section 9 you've got a cluster of oil wells, the south part of Section 4 you've got some oil wells. Were these gas wells at one time before they were --

A. Actually, let me -- Before we go on, let me have you refer to Exhibit 4 where the wells that do produce oil are color-coded in green. This might make it a little clearer for you --

Q. Okay.

A. -- how far over the oil-production potential is.

Q. All right.

A. And John Kloosterman, the engineer, will be testifying about oil production in this area after I get done.

But at this point, we had oil production all the way over. The furthest western well would be the Santa Fe Old Ranch Canyon Number 2, that is oil-productive. We do have one well in the extension area, in Section 20 of 21-24, that did initially produce oil and then actually went to gas.

What might help you out -- I don't want to get our testimony out of order, but there is a later exhibit that shows the color-coded production on the structure map -- that would be Exhibit 9 -- and you can see how that

production fits in with the geologic structure.

EXAMINER STOGNER: Is there any other questions of Ms. Cox at this time.

You may be excused. I may have some other --

THE WITNESS: Okay.

EXAMINER STOGNER: -- questions as we go on.

MR. KELLAHIN: Mr. Examiner, the next witness is John Kloosterman. Mr. Kloosterman is a petroleum engineer.

JOHN T. KLOOSTERMAN,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. For the record, sir, would you please state your name and occupation?

A. My name is John T. Kloosterman. I'm a senior reservoir engineer with Marathon Oil, working on the Indian Basin field.

Q. How long have you been involved in looking at reservoir-engineering aspects of the Indian Basin pools?

A. I've been looking at Indian Basin pools for almost two years now.

Q. And you've also looked at some of the production in South Dagger Draw as part of your study for this presentation?

A. That is correct.

Q. You've primarily focused your attention, though, on the producing characteristics of the gas pool and the associated pool?

A. In preparation for this case, that's correct.

Q. As a result of your preparation do you now have engineering opinions and conclusions concerning the appropriateness of moving the extension area into the associated pool?

A. Yes, sir, I do.

Q. In your opinion, can we do so without violating correlative rights and in order to prevent waste of hydrocarbons?

A. Yes, sir.

Q. Let's turn to your first display, Mr. Kloosterman. Does Exhibit 8 and the balance of the engineering exhibits we're about to see represent your work product?

A. My work or work prepared under my direction.

Q. In addition, were you provided data and information by the other operators that are listed as Applicants on the Application?

A. Yes, we've had a lot of contact with the other operators, exchanging data.

MR. KELLAHIN: Okay. At this point, Mr.

Examiner, we tender Mr. Kloosterman as an expert petroleum engineer.

EXAMINER STOGNER: Mr. Kloosterman is so qualified.

Q. (By Mr. Kellahin) Let's look at Exhibit 8. Identify first of all the area we're looking at, and then let's describe what you're depicting.

A. Okay, this is a picture of the Indian Basin Gas Pool, as best as can determine how it was back towards the initial development of the field. It's outlined in blue. The pink dots represent flowing gas wells that were drilled roughly in the mid-Sixties to 1970, and it's pretty much a snapshot of what the field looked like in 1970.

Q. The field extended substantially to the east, farther than it does now. It's been contracted?

A. That's correct.

Q. And in fact, part of the eastern portion of the gas pool was taken and created -- we created the Indian Basin-Upper Penn Associated Pool?

A. That's correct.

Q. Let's look at how this compares to Exhibit Number 9. What do we see on Exhibit 9?

A. Okay, Exhibit 9 is kind of a combination of some of the exhibits we've already seen. It shows -- The well coding is the same as Ms. Cox presented earlier, where the

pink dots are flowing gas wells, the orange dots are gas wells on artificial lift, and the green dots are wells that produce gas, oil and water on artificial lift.

The map is roughly segmented into the various areas, the field areas, broken up into the Indian Basin Gas Pool, the South Dagger Draw Pool and the Indian Basin Associated Pool.

Q. With Exhibits 8 and 9 still in front of us, let's take Exhibits 10 and 11 and put them side by side. Let's put 10 to the left and Exhibit 11 to the right and have you focus first of all on Exhibit 10. What are we seeing here with Exhibit 10?

A. Exhibit 10 is a compilation of roughly 600 pressure points that I've evaluated in the field, from the time of discovery to current time.

Q. Now, you are evaluating an area that contains wells shown in the gas pool as identified on Exhibit 8?

A. That's correct.

Q. This is for the full extension of the original pool.

A. That's correct. If we look at Exhibit 12, it shows the wells we're actually -- acquired pressure data on.

Q. All right, let's do that. I think that would be helpful. Let's -- For a locator map, then, let's look at

Exhibit 12.

When we look at the color code on Exhibits 10 and 11 --

A. Yes, sir.

Q. How does that relate to the color code on Exhibit 12?

A. The red open squares on the Exhibit 10 and 11 correspond to the red open circles on Exhibit 12, which are primarily gas-pool pressure points.

Q. On Exhibit 10, there are a density of red open squares that are shaded in red. Is that a different code indication, or is that simply the density of the data?

A. This is the density of the data. There's a number of points there, approximately overlying one another, that, when all the points are plotted up it just looks like a big red blob, but it's really a number of open red squares.

Q. Okay. So the open red squares are Indian Basin-Upper Penn Gas Pool wells?

A. That's correct.

Q. And this is the pressure data you had from your own files and other files to develop the database?

A. That's correct.

Q. What's the -- and did -- What do the green symbols indicate?

A. Okay, the open green triangles are pressures from the -- what is currently the Indian Basin Associated Pool. They're represented by green circles on the locator map.

The closed green triangles are pressure points taken from the proposed extension area, and they are points from the area of 21 South, 24 East.

The closed green diamonds are from the area we're calling the transition area between the gas pool and the associated pool.

Q. Having plotted the data on Exhibit 10, tell us what it shows you.

A. What it shows me is from a period of initial discovery until the mid-Seventies, roughly, the Indian Basin Gas Pool and the area now in the associated pool behaved very similarly. Pressures declined fairly uniformly.

Starting in the mid-Seventies there was a deviation. You see the green and the red symbols deviating, the green staying at a higher pressure, and the red depleting at a much more rapid rate, the red being the gas pool.

Q. So what's the point?

A. The point is -- And go ahead and look at Exhibit 11, which is kind of a blow-up from 1986 on. What's been happening is -- and we'll see this when we discuss the

production data a little bit more -- is, as wells watered out in the area which is now the associated pool in the proposed extension area, the pressures stayed higher, as those wells were shut in, as the gas pool continued to deplete, which shows to me that the wells, while initially acted as one system, are currently acting somewhat independently of one another, the two areas meaning the gas pool and then the associated pool and the proposed extension area.

If you look at the green pressure points, you see the open triangles and the closed triangles, pretty much on the exact same trend. Remember, the green open triangles are pressure points from the associated pool area. The green closed triangles are from the area of the proposed extension in 21 South, 24 East. So those wells, the pressure data indicate, are behaving identically from a pressure standpoint.

The closed green diamonds are from the transition area, and you can see there's some points that follow the gas pool line, there's some points that are more closely related to the associated pool line, there's some that are -- There's one there at the very end which is kind of hanging out there in the middle.

And that's why we're calling it, at this point in time, a good point to split this from a pressure

standpoint. That does, in fact, appear to be a transition area from the higher-pressure associated pool to the lower-pressure gas pool. You see the gas pool pressures are down to close to 500 pounds currently, whereas --

Q. And in the associated pool what is the pressure?

A. The associated pool currently, it's a little over 1600 pounds.

One other thing I'd like to point out on the time with the production discussion a little bit, starting in about January of 1994 you see the associated pool. It went from -- It was basically a flat pressure for a period from 1986 until 1994, and then starting in 1994 it started to decline about 50 pounds a year. When we get into the production data we'll see why that happened.

Q. Let's take another exhibit and a little different topic. Let's look at Exhibit 13. This is superimposed information on top of Mrs. Cox's structure map that we've looked at before. The wells are color-coded in the same manner as one of her displays.

A. That's correct.

Q. And you've taken four sections and you've outlined them in a yellow outline to identify those sections?

A. Right, the sections that are highlighted are sections -- We're going to look at a tight production

plot. What I did, I just took one well from each of the areas in question, the associated pool, the gas pool, the associated pool extension area to the north, and then one from the transition area, just so we can look at similarities and dissimilarities between the production characteristics of the different areas.

Q. Once we complete that review of information, are you able to conclude now that the adjustment of acreage, taking the extension area and put it into the associated pool, will not have an adverse effect on oil production?

A. No, it will not have an adverse effect on oil production. It will enhance the oil-production possibilities in the area.

Q. Describe for us in a general summary what you see occurring and the advantages and opportunities for the operators by taking the extension area and putting it in the associated pool.

A. There are a couple of main advantages for taking that extension area and putting it in the associated pool. One Mrs. Cox referred to is the spacing, the number of wells per section, and the setback from the section lines. The gas pool requires a 1650-foot setback from the section line, whereas the associated requires a 660-foot setback from the section line.

Another issue is allowables, which Mrs. Cox

already testified to. Dewatering is critical and keeping the water moving is critical. With the Indian Basin Gas Pool rules being a lower allowable, 6.5 million a day, we'd be in a position where we'd potentially have to shut wells in to make up overproduction, and we'd be starting all over again.

We've seen on a number of coproduction wells of ours after we've shut in because a sump pump fails or whatever, when we turn them back on they don't come back on at the gas rate they were making. We have to start all over again and start the water moving and start the gas flowing again.

So there's a real advantage to having the higher allowable to allow us to move the hydrocarbons.

As far as the setback, we really need the flexibility there for a couple of reasons, for correlative rights. There is currently a boundary between the gas pool and the associated pool, and on one side you have sections that have a higher allowable and more favorable setback requirements, and sections in the gas pool are not able to effectively compete with those.

The other issue we battle out there is the topography. We're topography-challenged out there. There's a lot of steep cliffs and hills. And without the change in the spacing, we're continually having to get

administrative approvals to drill unorthodox locations, and this will eliminate much of that paperwork burden.

Q. One of the principal, if not the principal, issue is improving recovery efficiency and thereby preventing waste by recovering more hydrocarbons.

A. That's correct.

Q. Will a shift of this acreage into the associated pool accomplish that fact?

A. Yes, it will. The additional wells, as Mrs. Cox testified to, allow us to produce more water, which gives us more drawdown on the formation, which translates into higher hydrocarbons.

This isn't a flowing gas situation where you can drain 640 acres with a well. We'd be looking at -- Most of the operators out there have been drilling three to four wells per section, although the associated pool order allows wells on 80-acre spacing, which would be up to eight wells. I haven't seen anybody attempting that yet, mainly because of topography; it's very difficult to get that many wells on.

But four wells or so per section gives us the ability to move the water to make the hydrocarbon.

Q. Let me direct your attention to the production data. It's been divided into different areas of Indian Basin so that you can analyze and compare the performance.

Let's start with Exhibit 14. Show us the area described by these wells, and let's talk about how they perform.

A. Okay, Exhibit 14 refers to wells that are in the currently defined associated pool, and what this and the next several exhibits are going to show, it's going to compare wells that were originally drilled under gas pool rules back in the Sixties, how they performed in the three or four different areas, and then look at recent development, what's taken place under the current existing pool rules.

So the main point I'd like to make on this first Exhibit Number 14 is the original development wells, which were basically mid-Sixties wells. And the associated -- current associated pool area, averaged about 15 BCF. You can see they watered out, and it has on it -- Let's just go across here.

We've got a section locator, a well name, current operator of the section, first production, date shut in. And what caused that well to be shut in is typically water production. Back then they didn't have the facilities to handle a lot of water production. When the well started making 100 barrels or so of water a day, they just shut the well in.

Then we have cumulative production through

December of 1997, and then current production. In these original development wells they're all shut in, so obviously there's no current production.

The main points are about 15 BCF average per well, wells shut in from early Seventies to the mid-Eighties.

Q. Okay. And again, this population of wells is taken from what area?

A. From the area which is currently designated the Indian Basin-Upper Penn Associated Pool.

Q. All right, let's see a recent development, then, by looking at Exhibit 15.

A. Exhibit 15, I don't intend to go through all these wells. What I -- The intent here is to show volume. There's been a lot of wells drilled in this area which -- since the associated pools were declared in this area.

Represented on this page are 26 wells with a total cumulative oil production of about 1.2 million barrels, 22 BCF and 32 million barrels of water.

You see a number of very nice oil wells on there, 100,000 to 150,000 barrels of oil, and some very nice gas wells, 3, 3.5 BCF, and some of those wells are still making 300 barrels of oil and 5 million gas. So the operators that have developed this area have done a fine job, and it's doing very well.

Q. Within the current pool boundary for the associated pool, do you see any adverse effect by using the high-capacity lift method on oil production?

A. No, quite the contrary. Without the high-capacity lift there would be no oil production out there. You have to move the water to make the hydrocarbon.

Q. If we go up into the extension area, 21 South, 24 East, and we're a little higher on structure and now engaged in high-capacity lift for wells that appear to be gas production only, is that going to have an adverse effect on the oil production within the structural feature?

A. Okay, actually, if you look at the structure on Exhibit 13, the structural component for the area in 21 South, 24 East, is very similar to the current associated pool.

If you look at wells that are oil-productive in the current associated pool, they're -- extend up to about minus 3550, for a top of upper Penn. And you can see most of the area in that northern extension, proposed extension area, is within that structural boundary.

So all of that area to the north is prospective oil production.

Q. As a reservoir engineer, do you see any adverse consequences, then, to have this entire structural feature subject to the same rules?

A. No, I do not. I think it's -- It would be very fair, it would protect the correlative rights and prevent waste by allowing the operators to develop this area in the most efficient manner.

Q. Let's focus on the population of wells that are in the 21 South, 24 East, in part of the proposed extension area, and if you'll look at Exhibit 16, identify and describe what you're concluding here.

A. Okay, this exhibit is set up the same way as the prior two we looked at, same information is displayed.

Under the original development, the points I want to make there, the average cumulative production for this area is about 17 BCF, which is very similar to the area we just looked at in the current associated pool.

First production and date shut in are also very similar. First developed in the mid-Sixties, shut in because of water production from the late Seventies. There is one anomalous well that has continued to flow continually through the entire time period, and that's a well with the much higher cumulative production, the 30 BCF.

The striking thing is the recent development, two wells, compared to 26. One of those wells in Section 20 was originally drilled as a Morrow well, and we did a short-term production test on it in 1996 -- that's a

Marathon-operated well -- and it did produce oil on test. We did not have the facilities set up to produce it long-term, so we just established that there was hydrocarbon up there and shut it in until we could build the infrastructure to produce it.

Q. Let's look at the production information on Exhibit 17, and this represents the data for those four stacked sections in the area that we've called the transition area?

A. That's correct.

Q. Identify and describe what we're seeing here.

A. Okay, we're looking -- Again, we're looking at the same type of data. The one thing in this -- We're looking at the entire sections that make up that transition area, not just the east half of them that -- or the proposed extension area. There are really only two wells that would show up on the whole exhibit if we just looked at the east half.

Looking at this exhibit we can see that under the original development section, about 19 BCF. So again, similar initial production characteristics. Wells were initially produced at about the same time, mid-Sixties. They were shut in a little bit later. And it's as Mrs. Cox testified, that water has been moving from east to west, so you're moving further west so the wells watered out later.

Under the recent development, four of the five wells there were actually replacement wells for gas pool wells that watered out. They were drilled further upstructure to the west in an attempt to get away from the water production.

There's one well, the Zingaro ANG Federal Number 1, Yates' well, that was actually drilled for co-production-type potential.

Q. All right, let me direct your attention now back to Exhibit 13 as our locator map. It's got the four sections that are outlined in yellow --

A. Uh-huh.

Q. -- and use that to help identify the locations of the following wells we're going to discuss.

A. Okay, what I'm going to do now is just look at type -- typical wells from each of the areas, so we can compare them to one another.

The first well we're going to look at is a gas-pool well. I do not have a table for the gas-pool wells, but I can tell you from prior work that the wells on average have produced 40 to 45 BCF cumulatively, and most of the wells are still producing -- are still flowing gas wells.

Q. Exhibit 18 is what?

A. Exhibit 18 is a type production curve for the gas

pool. It's taken from Section 3, which is the furthest-west yellow-colored square on the locator map.

Really, to point out here, is really flat production through the entire history. We see a little increase here in the last couple of years, starting in about 1994, because of added compression and a second well drilled in the proration unit in 1997.

The other point is low water production, currently averaging less than 10 barrels of water a day for both wells combined on the section.

Q. All right, let's direct your attention back to the associated pool and look at -- I'm sorry, this is -- Exhibit 20 is going to be in the extension area up in 21 South, 24 East.

A. Okay, we skipped 19. Did you intend to do that?

Q. I did not.

A. Okay.

Q. I'm sorry.

A. Okay.

Q. Describe 19.

A. Okay, Exhibit 19 is taken from the associated pool area. It is Section 6, which is in the northwest corner of the associated pool. You can see it colored yellow there. There are currently three producing wells on it.

And if you compare it to Section 3, the early time history through about 1986, they're about identical. They're flowing gas wells. Gas rate was fairly constant. Then the well was abruptly shut in, and that was the result of a sudden increase in water production.

The lease remained inactive for about eight years, till 1994, when Yates re-entered that original gas well and re-established production, and it has subsequently drilled two more wells.

The main points there are:

Oil. You can see shown in green about 300 barrels of oil a day from that section, which is far higher than was ever produced on that section previously.

And gas rate is currently is higher than it had ever been produced.

And water rate is the other key thing. It's about 9000 barrels a day, compared to the gas pool of 10 barrels a day. So there's a big -- a stark difference there.

Q. The re-establishment of production of hydrocarbons in 6 is attributed to what?

A. It was attributed to the high-volume lift moving water. You see the initial production, re-establishing production in 1994, the well is making about 2 million gas and over 4000 barrels of water a day. That well would not

flow on its own.

Q. All right, let's now look up into 21 South, 24 East, at Exhibit 20, and see what's happened in that section.

A. Okay, Exhibit 20 shows a well from Section 20, which is the furthest north section, colored yellow on the locator map.

Again, if you compare it to -- Let's compare it to the -- Exhibit 19. You see production was cruising along about the same rate, 4 to 5 million a day. You see water in about mid-1975 abruptly shot up from one barrel a day to over 100 barrels a day, and the well was subsequently shut in.

There was some short-term testing done in 1980, which I'm not very familiar with. I believe they re-entered the well just to see if they could get it to flow, and I believe what happened was the well would flow for a short period of time and then load up and die.

And that well -- that lease has been -- or that section has been shut in since 1976.

Q. If this area is put in the associated pool, would that create an opportunity to further explore the potential for producing hydrocarbons from Section 20.

A. Yes, that would be -- Our intention would be to drill wells for oil and gas in this section.

Q. All right, let's look at Exhibit 21 and direct your attention, then, to a section that is in our transition area.

A. Yes, this is Section 36. It's caddy-corner to the northwest of Section 6.

And let's just compare it to Section 6, which is Exhibit 19. Again, you see the same early time behavior, fairly constant gas rate. The spiky nature in the early time was due to seasonable allowables during that period of time.

Again in the mid-Seventies you see water production increasing. Now, in this case they managed to maintain production, despite the 100-plus barrels of water per day, but at a much reduced gas rate. The well eventually loaded up and died in 1985.

A replacement well was drilled which came on very strong, about 4 million a day. It lasted a couple of years and then watered out and died.

Not represented on this exhibit is some recent work. The operator, Oryx, recently drilled a well in the southeast corner, the Lowe State Number 3, and it's currently producing over 4 million gas and -- I'm still not quite sure how they're doing it, but over 8000 barrels of water a day. They're -- Sub-pump 4000 and flowing 4000 up the back side, which is pretty amazing.

Q. When we look at the transition area --

A. Yes, sir.

Q. -- are the operators in agreement that this is an appropriate point, based upon current data, to place the boundary between the gas pool and the associated pool?

A. This is where we eventually wound up. This was an area of discussion, how far west we should take it. There were -- In honesty, some operators wanted to take it a little further west at this time, but the consensus that we reached to bring forward to the Commission at this time is represented on the map.

So this was our consensus decision, what would be best to bring into the associated pool at this time.

Q. As part of that division of these four sections, it will be necessary to obtain Division approval to create four nonstandard gas proration units which will still be dedicated to the gas pool?

A. That is correct.

Q. Have you examined the production history in those proposed proration units --

A. Yes, I have.

Q. -- to see whether or not there was any kind of problem with their allowables and whether or not the division of the acreage would place any of those GPUs in an overproduced status?

A. Yes, I did investigate that.

Q. Let's look at that information. If you'll start with Exhibit Number 22, identify and describe what you've determined to exist for Section 1.

A. Okay, in Section 1, which is shown on Exhibit 22, the only production currently on that lease is from the east half. So by dividing that, there will be no current production on the west half of the lease, so there will be no allowable problem there at all. There will be no overproduction that we'd have to contend with.

Q. Exhibit 23?

A. Exhibit 23 is a similar exhibit. It's for Section 12. In this case the only production I had record of through December of 1997 was from the west half, and you can see that production there is under 50,000 MCF per month, which is well below what the half allowable for a 320-acre nonstandard proration unit would be.

So again, there's no overproduction we need to deal with in that section.

Q. Exhibit 24?

A. Exhibit 24, same story for Section 13. There's one well active in Section 13 on the west half of the section, and you can see there is no danger there of any allowable violations there.

Q. All right. And I guess the last one is up in

Section 36?

A. Yes. Section 36 I did not make an exhibit for because up until about a month ago or a month or two ago that section had been shut in for probably five or six years, so again there was no --

Q. There was no production?

A. -- there was nothing to show on a graph, so I didn't make a graph.

Q. That's operated by Oryx?

A. That s correct.

Q. Yeah, and they're proposing that that also be approved as a nonstandard proration unit?

A. That's correct.

Q. Okay. Summarize for us your reservoir conclusions, Mr. Kloosterman, concerning the Application.

A. Just high-level conclusions, the areas we're proposing to bring into the associated pool, from a pressure and production standpoint, behave more consistently and similarly to the associated pool than they do to the gas pool. Therefore it makes more sense to have those sections reclassified into the Indian Basin-Upper Penn Associated Pool and delete it from the Indian Basin Gas Pool.

MR. KELLAHIN: Mr. Examiner, we move the introduction of Mr. Kloosterman's Exhibits 8 through 24.

EXAMINER STOGNER: Exhibits 8 through 24 will be admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. When I look at Exhibit Number 10 -- this is your pressure data --

A. Okay.

Q. -- of course the cluster pressures in the very beginning are all together and then it comes down there and it separates out. And I guess that goes back to trying to associate that pressure differential with the saddle that's in here, and what's creating that or what causes that?

A. I believe what's causing it is the influx of water. As water came in it was trapping gas at a higher pressure. As the water came in, the wells were shut in, so there was no more production in the associated-pool area of the field, so you had no withdrawals.

And you had -- not an extremely active water drive, but you did have a constant influx of water coming in from the east, which maintained that pressure in that area.

And the point I alluded to earlier and I forgot to make on the production side -- or make explicitly -- was, I pointed out that from 1986 to 1994 pressure is very stable in the green dots, very stable in the associated

pool area. And then starting in 1994 it started declining, not as steeply as the gas pool, but it started declining. That's a direct result, in my opinion, of the 26 wells that were drilled in the associated pool from 1993 through current time.

So once production was re-established, we're seeing a decline in pressure again.

EXAMINER STOGNER: I have no questions of this witness.

You may be excused.

Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

We call Steve Daniels.

STEPHEN M. DANIELS,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Daniels, would you please state your name and occupation?

A. Steve Daniels, petroleum land management for Marathon Oil Company.

Q. On prior occasions, Mr. Daniels, have you testified as a landman before the Division?

A. Yes, sir.

Q. Your current employment with Marathon assigns as part of your responsibilities assisting in analyzing the ownership issue in the extension area?

A. That's correct.

Q. Have you made yourself knowledgeable, with the assistance of the other land people from the other companies, as to the lease configurations of the various sections that are proposed to be added to the associated pool?

A. Yes, sir, I have.

Q. As part of that effort, have you, with their assistance, tabulated the owners that are entitled to receive production, including the royalty overrides and working interest owners?

A. Yes, sir.

Q. Let's turn to Exhibit Number 25. This is a compilation of your documents, is it not?

A. That is correct.

Q. After doing all this work, are you able to represent to the Division Examiner that there will not be any impairment of correlative rights, should he approve this Application?

A. Yes, sir, I agree with that.

Q. Are you able to base that conclusion upon the opinion that correlative rights will not be harmed, because

in all instances there are various agreements that allow an appropriate sharing of production?

A. Yes, that's correct.

Q. Let's show him an illustration of what you're saying.

A. Basically there is in place operating agreements, communitization agreements that will allow the sharing of production basically on a 640-acre basis, in some cases. We intend, even with movement to 320-acre spacing, to continue to pay all of those owners on a 640-acre basis.

Q. All right, let's take a hypothetical and see if it fits in all instances.

In a given section in the extension area --

A. Uh-huh.

Q. -- will you have an operating agreement that allows the working interest owners to share production from a well regardless of where it is in the section, even if the spacing is changed from 640 to 320?

A. Yes.

Q. Is that true of all the sections in the extension area?

A. Yes, sir.

Q. Okay. When we deal with the royalty and overrides, are there in place federal communitization agreements that will not be disrupted from their 640

agreements if this Application is approved?

A. That is correct.

Q. All right. Have you received assurances from the Bureau of Land Management, as to the federal communitization agreements, that that, in fact, will take place?

A. Yes, sir, we have talked with Mr. Armando Lopez and have confirmed with him that the communitization agreements will remain in effect.

Q. All right. When we deal with the spacing units that are currently in the gas pool and are to be divided between the gas pool and the associated pool, leaving the west half of each of these sections as a nonstandard proration unit, are there in place documents for each of these four sections so that production continues to be shared on a 640-basis, even if it's split between the two pools?

A. Yes, sir.

Q. There is couple of state leases involved in the extension area. Let's look at each one of those. There is -- One of them is in Section 32 --

A. Yes, sir.

Q. -- up in 21 South, 24 East, and you'll have a display that shows us that section?

A. Yes, sir, it's -- oh, maybe about midway through

the Exhibit 25.

MR. KELLAHIN: I'm sorry these are not numbered pages, Mr. Examiner. It's --

EXAMINER STOGNER: Are you looking at Section 32 that's split up in two state leases, look like both standup?

MR. KELLAHIN: Yes, sir.

THE WITNESS: Yes, sir.

MR. KELLAHIN: You're on the same page with us.

Q. (By Mr. Kellahin) All right. What has the State Land Commissioner advised concerning this section?

A. Basically, we talked with them, and they have -- There are two state leases, one covering the east half and the other in the west half. The working interest ownership within both sections is identical, as well as the royalty ownership is identical.

Q. All right. And there are no overrides?

A. There are no overrides.

Q. And this is a Marathon-operated section?

A. Yes, sir, that's correct.

Q. And so there will be a new communitization agreement put together for the section?

A. That is correct --

Q. All right.

A. -- once -- in the event the pool rules are

amended.

Q. Let's look at the other state lease in Section 36. It's the one that's operated by Oryx. We continue down through just a couple of pages. Section 36 has an odd arrangement of two different lease tracts, if you will. They're both state leases?

A. That is correct.

Q. And what information have you received concerning how the Land Office intends to handle the subdivision of this section?

A. Pursuant to a conversation with Oryx, who is the operator of this section, they have contacted the State Land Office, and they plan to terminate the existing 640-acre communitization agreement and put together a communitization agreement covering the east half once approval is obtained.

Q. All right. To the best of your knowledge, then, with regards to all of these sections correlative rights have been protected and equity maintained?

A. Yes, I agree.

Q. As part of your effort, you have also tabulated and identified the various parties entitled to notice of this hearing, have you not?

A. Yes, sir, I have.

Q. Let's turn to page 26 [*sic*]. Is this a

tabulation of all of the information concerning the notifications?

EXAMINER STOGNER: Hold it, what did you refer to?

MR. KELLAHIN: 26, Exhibit 26.

EXAMINER STOGNER: Exhibit 26.

MR. KELLAHIN: Exhibit 26.

EXAMINER STOGNER: Okay.

Q. (By Mr. Kellahin) This is your certificate of notification?

A. Yes, sir.

Q. And on June 16th, under your direction, Marathon employees sent out certified mail notices, including a copy of the Application, to the parties listed?

A. That is correct.

Q. All right, describe for us the different categories of parties that you sent notice to.

A. We sent notice to all owners within the proposed expanded area. We sent notice to the operators within the existing associated pool area. And we also sent operators of upper Penn wells that are located within one mile of the boundary of the total proposed expanded area.

Q. For those sections that are to be placed in the associated pool from the extension area, that notification list included also all interest owners?

A. All interest owners. That would mean all working interest owners, overriding royalty interest owners, royalty interest owners, as well as any production payment owners.

Q. Of the notices sent, were you able to receive green return receipt cards for all the parties notified?

A. We received all except for three -- two people, excuse me, two people.

Q. Did you recheck the list of -- address for those people to determine if you had the best available address?

A. Yes, sir, I did.

Q. And you have used your best available address?

A. Yes.

Q. How many total notices did you send out?

A. We sent out a total of 86 notices.

Q. And how many were returned to you?

A. All except --

Q. There were four that came back, right?

A. Right.

Q. Did you check the addresses of the four that came back to determine that you had used the best available address?

A. Yes, sir, I did.

Q. Okay. Were there interest owners for whom you did have -- you had no address?

A. Could you repeat that?

Q. Yes, sir. Were there names of companies or individuals for whom you did not have an address?

A. Yes, sir, there were four parties that we did not have an address for.

Q. And was there an operator associated with those individuals or companies?

A. Yes, sir, there is.

Q. And who is the operator that provided those names?

A. That was Yates Petroleum.

Q. All right. To the best of your knowledge, did you and Yates attempt to obtain addresses for those individuals?

A. Yes, sir, we did.

Q. And you simply couldn't?

A. That's correct.

Q. All right. To the best of your knowledge, then, you've made a good-faith effort to provide notice to all the interest owners?

A. Yes, sir, I have.

Q. Have you received any objections?

A. No, sir.

MR. KELLAHIN: That concludes my examination of Mr. Daniels. We move the introduction of his Exhibits 25

and 26.

EXAMINER STOGNER: Exhibits 25 and 26 will be admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. On the state sections that you showed --

A. Uh-huh.

Q. -- in particular, Section 32 that had those two standups --

A. Yes, sir.

Q. -- how would the 320-acre proration units be formed in that particular section?

A. We are proposing it would be an east-half, west-half 320-acre configuration.

Q. And there's how many wells in Section 32? One or three?

A. Currently, in the west half there is one producing well. And in the east half Marathon recently drilled the section -- the Number 2 well in the southeast southeast quarter as a producing quarter. And those are the only two wells that are producing in Section 32 at this time.

Q. And all overrides were notified, but you did not receive any objection from anybody?

A. No, sir, I didn't -- Or maybe I should rephrase.

Yes, I did notify all the overriding royalty owners. And no, I did not receive any objections.

Q. Your Exhibit 26, was that the notification mailed out to those overrides? Or was there additional information provided?

MR. KELLAHIN: There was additional information, Mr. Examiner. This is the notice letter, but it also included a copy of the Application itself, with a locator map which was attached to the application. The first sentence --

EXAMINER STOGNER: I'm sorry --

MR. KELLAHIN: The first sentence of the notice letter says, Please find enclosed a copy of the referenced Application.

EXAMINER STOGNER: Okay, that's what I'm trying to refer to. And when it refers to that, are you talking about our June 15th Application that we received?

MR. KELLAHIN: Yes, sir, it's the June 15th Application. This is what was sent to them.

EXAMINER STOGNER: There's an interesting lesson of why you don't downspace but you increase density, as you well know, with all the notification.

THE WITNESS: Right.

Q. (By Examiner Stogner) Were there any inquiries from any of the override about how they would be affected?

A. No, I didn't receive any comments from any of the parties.

EXAMINER STOGNER: Mr. Kellahin --

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: Oh, by the way, I have no other questions of this witness.

Mr. Kellahin, I'm going to ask you to provide me a rough draft order. I'm proposing to you also to include in there -- Since I've been here, that lesson had been taught to me prior.

MR. KELLAHIN: What? About not being able to downspace?

EXAMINER STOGNER: Not being able to downspace, right.

But I'd like to consider a revisitation therein, in which if there is any problems that crop up prior to then -- It's twofold, to protect this area and then also to -- Each generation, it seems like a lesson is learned. So this might help in any future downspacing, if you will, to consider -- perhaps let's discuss it, about a revisitation period, some sort of a parallel system.

MR. KELLAHIN: I'll happy to be do that -- be happy to do that.

EXAMINER STOGNER: I think you see what I'm getting at.

MR. KELLAHIN: Well, this is very unique. Had I -- My counsel to Marathon and the others is that we probably couldn't downspace it. However, when you look at the land information, it's amazingly unique.

First of all, there's no force-pooling orders. Each section has been consolidated under an operating agreement. Every one of these has got an operating agreement. And it's either state or federal acreage. Both agencies have worked out communitization agreements that are suitable, particularly the federal government, which allows us to continue to pay all parties on 640 spacing.

That collection of unique circumstances creates, perhaps, I think the first example I know of, of being able to downspace a producing area. This was all the acreage we could find that met the various criteria of the land issues, the reservoir engineering aspects and the geology, and it was a unanimous agreement by all the parties to do this. And I think it's perhaps unique. You may not see another one.

EXAMINER STOGNER: That's why it looks too good to be true. Of course, once it gets enacted and in place, then you're going to get somebody within this list -- That's the danger in which you get somebody within the list saying, Well, my checks aren't as big as they used to be --

MR. KELLAHIN: We understand that.

EXAMINER STOGNER: -- what's the problem?

MR. KELLAHIN: And that's why we're so careful to try to send them certified notice and make sure we did our best to get them notice.

There's one loose end here I'll draw your attention to very quickly.

In looking at nonstandard well locations --

EXAMINER STOGNER: Yes.

MR. KELLAHIN: -- we have existing orders on wells that are unorthodox. The only one that this subdivision now makes unorthodox is a well in Section 36, and it will be too close to the eastern boundary of the standup spacing unit, and we'll ask you to attend to that, and we'll include it in our proposed order.

EXAMINER STOGNER: Well, I'd like for you to maybe even -- I was getting around to that also. Usually you've got a buffer zone here. So they allow what, 660s over in the associated area?

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: Of course, you allow 1650s, there's no such thing as a standard location. But you've got a line here.

So what I propose to you is, along that line allow a buffer where any gas well -- look into it, at least and see if everybody would agree -- to allow any well there

to be drilled at least 660 from that buffer zone and the keep their outer boundary, 1650, available for unorthodox locations.

I mean, that's only fair and reasonable, because you're going to be able to drill additional wells, 660, without notification, over on the associated side. Well, why shouldn't that hold true for the gas side?

MR. KELLAHIN: And that's what we've attempted to do by locating this line in the center of these sections.

For example, if the boundary was half a section farther east, then we have the need for this buffer arrangement. By locating it in the middle of sections that will continue to share on 640 spacing, we have created an actual buffer transition in well locations within the section itself.

And so I think we've addressed that concern, but we'll certainly visit it again as we draft the order.

EXAMINER STOGNER: Let's do, and that way if you give it an automatic exemption, and that way some companies, say, oh, based in Artesia, won't have a problem with administrative paperwork.

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: So we'll just address it and get rid of it and allow those parties to be able to drill a mirrored well without any kind of opposition. Just a

suggestion.

MR. KELLAHIN: All right, sir.

EXAMINER STOGNER: Oh, there's all sorts of things just flying at me here, but this looks, like you said, looks too good to be true. But let's think about that.

Okay, does anybody else have any -- And I appreciate everybody getting together on this and coming in as one single Application with all the parties in tow and in agreement. That takes care of a lot of headaches just right there.

With that, I will take this matter under advisement.

And, Mr. Kellahin, if you can provide me a rough draft.

MR. KELLAHIN: Yes, sir.

(Thereupon, these proceedings were concluded at 3:05 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 12006, heard by me on 9 July 1998.

, 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 July 15th, 1998.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998