NEW MEXICO OIL CONSERVATION DIVISION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date NOVEMBER 16, 2000 Time 8:15 A.M.

NAME	REPRESENTING	LOCATION
[illegible]	[illegible]	[illegible] St
[illegible]	—	
[illegible]	[illegible]	[illegible] Fe
Mark Peary	Kerr McGee	Dallas, TX
[illegible]	[illegible]	[illegible], TX
Joseph Martin	[illegible]	[illegible]
Stephen Forrester	Kerr McGee	Dallas, TX
Michael [illegible]	Campbell, Carr	[illegible] Fe
Ronnie Knick	Maynard [illegible]	[illegible]
Ernest L. [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	DALLAS, TX
[illegible]	[illegible]	[illegible] OK
B. H. Chalfant	CPI	Midland, TX
George [illegible]	[illegible]	[illegible], TX
William F. Carr	[illegible]	[illegible]
Rich Dumbauld	[illegible]	[illegible]

NEW MEXICO OIL CONSERVATION DIVISION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date NOVEMBER 16, 2000 Time 8:15 A.M.

NAME	REPRESENTING	LOCATION
Bill Pierce	Pennwell Energy Inc.	Midland, Tx
Phillip Tawatt	EOG	"
D Jay Siebens Jr	EOG	"
Ramon Reyes	Hyco	Roswell, NM
Vernon Dyer	"	"

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:	
IN THE MATTER OF CASE 12,182 BEING REOPENED PURSUANT TO THE PROVISIONS OF DIVISION ORDER R-11,221, WHICH ORDER PROMULGATED THE TEMPORARY SPECIAL RULES AND REGULATIONS FOR THE NORTH HARDY-STRAWN POOL IN LEA COUNTY, NEW MEXICO	CASE NOS. 12,182
APPLICATION OF CONOCO, INC., TO INCREASE THE SPECIAL DEPTH BRACKET OIL ALLOWABLE FOR THE NORTH HARDY-STRAWN POOL, LEA COUNTY, NEW MEXICO	and 12,532
	(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

November 16th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, November 16th, 2000, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

November 16th, 2000
Examiner Hearing
CASE NOS. 12,182 and 12,532 (Consolidated)

	PAGE
EXHIBITS	3
APPEARANCES	4
APPLICANT'S WITNESSES:	
CHARLES RULE (Landman)	
Direct Examination by Mr. Kellahin	9
Examination by Examiner Stogner	14
JOSEPH L. HUCK (Geophysicist)	
Direct Examination by Mr. Kellahin	17
Examination by Examiner Stogner	37
CHARLES RULE (Recalled)	
Examination by Examiner Stogner	39
JOSEPH L. HUCK (Continued)	
Examination (Continued) by Examiner Stogner	40
JOSEPH A. MILLER (Engineer)	
Direct Examination by Mr. Kellahin	45
CHARLES RULE (Recalled)	
Examination by Examiner Stogner	57
JOSEPH A. MILLER (Continued)	
Examination by Examiner Stogner	59
MIKE O'CONNOR (Engineer)	
Direct Examination by Mr. Kellahin	62
Examination by Examiner Stogner	72
JOSEPH A. MILLER (Recalled)	
Examination by Examiner Stogner	75
REPORTER'S CERTIFICATE	82

* * *

E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	10	14
Exhibit 2	14	14
Exhibit 3	14	14
Exhibit 4	19	37
Exhibit 5	22	37
Exhibit 6	27	37
Exhibit 7	36	37
Exhibit 8	46	57
Exhibit 9	49	57
Exhibit 10	50	57
Exhibit 11	53	57
Exhibit 12	54	57
Exhibit 13	54	57
Exhibit 14	55	57
Exhibit 15	56	57
Exhibit 16	63	72
Exhibit 17	64	72
Exhibit 18	66	72
Exhibit 19	71	72
Exhibit 20	-	72
Exhibit 21	-	72
Exhibit 22	-	72
Exhibit 23	-	72
Exhibit 24	-	72
Exhibit 25	-	72
Exhibit 26	-	72
Exhibit 27	-	72
Exhibit 28	33	37

* * *

A P P E A R A N C E S

FOR THE DIVISION:

LYN S. HEBERT
Attorney at Law
Legal Counsel to the Division
2040 South Pacheco
Santa Fe, New Mexico 87505

FOR CONOCO, INC.:

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

* * *

WHEREUPON, the following proceedings were had at 8:28 a.m.:

EXAMINER STOGNER: This hearing will come to order.

I'll call Case Number 12,182, (Reopened), which is in the matter of Case 12,182 being reopened pursuant to the provisions of Division Order Number R-11,221, which order promulgated temporary special rules for the North Hardy-Strawn Pool in Lea County. At this time operators in this pool may appear and show cause why these temporary rules should not be rescinded.

At this time I'll 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 Conoco, Inc.

EXAMINER STOGNER: Any other appearances?

Do you have any witnesses?

MR. KELLAHIN: Mr. Examiner before we swear the witnesses, with your permission we'd like to consolidate the next case for purposes of presentation. It's an Application by Conoco, Case 12,532. It asks you to consider increasing the depth bracket oil allowable in the

same pool.

I have four witnesses here, and we are here to present evidence in each of these two cases.

EXAMINER STOGNER: At this time I'll call Case Number 12,532. Other than Conoco, are there any other appearances in this matter?

These two cases will be consolidated for the purposes of testimony and for the issuance of an order.

Will the witnesses please stand to be sworn?

(Thereupon, the witnesses were sworn.)

MR. KELLAHIN: May it please the Examiner. Mr. Examiner, we are back before you this morning to reconsider the North Hardy-Strawn Oil Pool. It was first presented as a request by Conoco to the Division back in May of 1999. The request at that time was to create a special oil pool.

The special rules as adopted by the Division in Order R-11,221 was to provide for 160-acre oil spacing. The Division established that standard well locations in the pool would be 660 feet from the side boundary and that there would be a special depth bracket allowable of 600 barrels of oil a day.

That evidence was based upon the production from the discovery well, which was the Hardy 36 State Number 26 well. It demonstrated the capacity to produce in the range necessary to justify the additional oil allowable.

Since then, Conoco has drilled another 10 wells. There are a total of 11 wells now in the pool. The 11th well is still being tested and completed.

But as a result of the evidence of 10 wells, including the discovery, Conoco is back before you this morning requesting that you make the rules permanent insofar as 160-acre oil spacing, that the current side-boundary setbacks of 660 feet be standard, that the oil allowable increase be made to 900 barrels of oil a day.

You will see from the evidence that the wells in this pool are unique and unusual, because this, in fact, is a unique and unusual pool. The evidence will demonstrate to you that it's a solution gas drive reservoir, that it is not rate-sensitive, that there's no water drive in the reservoir, that there's no primary or secondary gas cap being formed, and that there is the necessity to have the Division consider on a regular basis the approval of unorthodox well locations.

And I know you, as the Examiner that handles those type of activities, will recognize that there are a number of unorthodox well locations in this pool. We'll describe for you why that was necessary and how that matter has been handled, and we would like to ask you to continue to handle the unorthodox well locations on a case-by-case basis. Rather than change the setbacks, we think it's

appropriate to look at each of the circumstances of each case as they're applied for and have you make your judgment as you have in the past, and that judgment has been to approve these locations. We'll show you the results of those efforts.

Our presentation is in four parts. We have a land witness that will describe to you the ownership in the area and the fact that Conoco is the only operator.

We have a geological presentation. Mr. Huck will present to you the geology. He presented it to you -- or to Examiner Catanach, at the original hearing.

We have a reservoir engineer that will show you the production information and the calculations to determine the ability and the capacity of the wells to produce.

And finally, we have a second engineer who will present to you the data from three step-rate tests that were conducted with the approval of the District Supervisor in Hobbs to determine the capacity of these wells and to have substantial, reliable evidence that these wells can be produced at rates up to but not exceeding the 900 barrels a day.

And with that introduction, Mr. Stogner, we would ask your permission to present our first witness.

EXAMINER STOGNER: Please continue.

CHARLES RULE,

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. Rule, for the record, sir, would you please state your name and occupation?

A. My name is Charles Rule, I'm a landman for Conoco in our Midland office.

Q. On prior occasions, Mr. Rule, have you testified before the Division?

A. No, I have not.

Q. Summarize for us your education.

A. I have a bachelor of arts degree from Michigan State University and a law degree from Thomas Cooley Law School in Lansing, Michigan.

Q. Summarize for us your employment as a landman.

A. As a landman, I've been a landman for just under 20 years. The last 11 years I've been with Conoco, and the last two years I've been in my current position where part of my responsibilities are for southeast New Mexico.

Q. As part of your responsibilities as a landman, have you worked with Kay Maddox and others to determine the ownership within the area affected by this Application?

A. Yes, I have.

Q. And are you knowledgeable of the various interest owners, working interest owners, in the various sections that are about to be described to the Division?

A. Yes, I am.

MR. KELLAHIN: We tender Mr. Rule as an expert witness.

EXAMINER STOGNER: Mr. Rule is so qualified.

Q. (By Mr. Kellahin) Mr. Rule, if you'll take a moment, sir, and unfold what is marked as Exhibit 1 and identify that for us.

A. This is a lease ownership map that I've prepared that shows the working interest ownership for the North Hardy-Strawn Pool and approximately a one-mile area surrounding the pool.

Q. All right. Let's start in the orange area that shows Section 36. Do you find that?

A. Okay.

Q. Find for us in Section 36 the discovery well.

A. The discovery well is the State Hardy 36 Number 26 well, and that's in the northeast quarter of Section 36, and it's outlined -- the proration unit is outlined in the solid red border.

Q. All right. It would be the northeast quarter, then, of 36?

A. The northeast quarter of Section 36.

Q. And the well is spotted with a red dot, and then the information about the well?

A. Yes, it is.

Q. When we look to find other wells in this pool, is there a color code that tells us?

A. All of our wells, all of our current wells, along with our next two proposed Strawn wells in the North Hardy Pool, are shown in red. And their proration units, their corresponding proration units, are shown in a red boundary around each well location.

Q. Describe for the record, Mr. Rule, what the Santa Fe OCD offices show to be the current boundary of the pool.

A. The current boundary of the pool consists of the northeast quarter of Section 36 -- that's in Township 20 South, Range 37 East -- and the southwest quarter of Section 30 and the west half of Section 31 in Township 20 South, Range 38 East.

Q. Conoco has other wells in the Strawn formation that are adjacent to or near those boundaries that are included in this pool; is that not true?

A. That's correct.

Q. Okay. So if we find a spacing unit outside -- or a well outside of the acreage described, it's being operated pursuant to the North Hardy-Strawn Pools?

A. Correct.

Q. Let's look at the color-coding. Let's start with the legend.

A. Okay.

Q. Over on the upper right-hand corner there are some colored dashed lines. What do those signify for us?

A. Okay, the red dashed line at the top shows you the boundary of Conoco's Southeast Monument Unit. And then within there it's got -- By the time I got everything on the map that I wanted to show it got a little busy, so this is a little bit hard to see, but the next line down, that kind of tan hachured line, is the outline for the Southeast Monument-Strawn participating area. Okay? And then if you go off to the east, the green line just shows you the western edge of our Warren unit.

Q. All right, let me see if I can illustrate how the color coding functions. If we take the discovery well in the northeast quarter of 36, that's 100-percent Conoco leasehold?

A. Correct.

Q. If I get into the light green shades of color, that represents an area where Conoco, ARCO and Chevron have interests?

A. That's correct.

Q. And within those areas, then, Conoco is the operator?

A. Conoco is the operator, we have 50-percent interest, and Chevron and ARCO each have 25.

Q. All right, sir. The Division notice rules, Mr. Rule, as you are aware, require you to notify the operators within the pool of any application like this that deals with matters other than changing acreage size of spacing units.

A. Okay.

Q. Are there any other operators besides Conoco in the pool?

A. According to our records, Conoco is the only operator in the pool.

Q. Are there operators of Strawn wells within a mile of the pool boundary, not in any other Strawn oil pool, other than Conoco?

A. Again, according to our records Conoco is the only operator.

Q. For those wells in which you share a working interest with Chevron and ARCO, have you made them aware of Conoco's Application in this case?

A. Yes, we have.

Q. And how did you do that, Mr. Rule?

A. On September 12th, we had a technical review with Chevron and ARCO, and we gave them just a technical overview, really, of our field development here in the

Strawn, and shared with them also the results of our step-rate test that support our request for the 900-barrel-a-day allowable.

Q. Did you receive any comments back from either Chevron on ARCO concerning your request?

A. We did, we received from both companies the letter of support that we've submitted as Exhibits 2 and 3.

MR. KELLAHIN: Mr. Stogner, that concludes my examination of Mr. Rule. We move the introduction of his Exhibits 1, 2 and 3.

EXAMINER STOGNER: Exhibits 1, 2 and 3 will be admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. What was the pool boundaries of this again? I have the northeast quarter of 36 --

MR. KELLAHIN: Excuse me, Mr. Stogner --

EXAMINER STOGNER: Have you got --

MR. KELLAHIN: -- here's the list of --

Q. (By Examiner Stogner) Okay. Can I tell by looking at this map -- that's referencing Exhibit Number 1 -- what the mineral ownership is as far as the royalties? I know that Section 36 is staked, because it has it down there on the bottom --

A. Correct.

Q. -- but how about Sections 25, 30 and 31?

A. You can't tell from just looking at the map, but I can tell you -- I can tell you the ownership if you'd like, but no, you cannot tell just from looking at the map.

Q. Yeah, why don't we fill that in?

A. Okay, do you want to start with Section 25?

Q. Let's start with Section 25, yes.

A. Okay. Everything within the boundary of the Southeast Monument Unit, everything north of that boundary, is going to be a federal lease, federal ownership. Then you come down to the southwest-southwest quarter, the Chevron lease, I believe, is a fee lease.

Q. Okay.

A. Then the remaining acreage there in Section 25 is a state lease.

Now, we did -- We wanted to, on the map, show the lease ownership, not the royalty ownership; that's why we've done it like that. But if you look on the map you can also see we do have on most of the tracts the lease serial numbers, whether it be a federal or state lease, so you can typically tell which kind of lease it is just by looking at the serial number.

If you come over to Section 30, all of Section 30 is federal.

Coming down to 31, the south half, south half

that's shown in blue for Chevron, those are fee leases. And the remainder of the section is federal.

Q. How about going north to Sections 24 and 19?

A. That's all federal.

EXAMINER STOGNER: Mr. Kellahin --

MR. KELLAHIN: Yes, sir?

EXAMINER STOGNER: -- what reference are you referring to on the notification requirements?

MR. KELLAHIN: I was looking at 1207, I believe it's (4)(b)(ii), and it says if you're asking for special pool rules, other than changing the size of the spacing unit, then you notify the operators in the pool and any operator of a Strawn well within a mile of the boundary of the pool, unless that production is in another pool. And so that's what we were using as our notice obligation.

EXAMINER STOGNER: So it's just Chevron and Atlantic Richfield that was notified?

MR. KELLAHIN: Well, we have no obligation to notify them, but we did, in fact, discuss this case with those two other working interest owners.

EXAMINER STOGNER: Okay, so it was just the operators that were notified?

MR. KELLAHIN: Yes, sir. And for this case, Mr. Examiner, the only operator is Conoco.

EXAMINER STOGNER: Okay, but it does not require

that the royalty owner interest or the working interest in the absence of an operator?

MR. KELLAHIN: Unlike the location-exception rules, the pool rules here do not require that.

EXAMINER STOGNER: Okay. I have no other questions for Mr. Rule at this time. Thank you, Mr. Kellahin.

MR. KELLAHIN: Thank you. Mr. Examiner, our next witness is Mr. Joe Huck. Mr. Huck is a petroleum geologist. He testified before you, or before the Division, at the discovery pool-rule hearing, and he's back today to show you what is the situation in the pool.

JOSEPH L. HUCK,

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. Huck, for the record, sir, would you please state your name and occupation?

A. My name is Joseph Huck, I'm a geophysicist with Conoco in Midland, Texas.

Q. Mr. Huck, on prior occasions have you testified before the Division as a geophysicist?

A. Yes, I have.

Q. And that testimony had to do with appearing

before Examiner Catanach back in May of 1999 concerning the information on the discovery well and the request for special pool rules?

A. True.

Q. Since then, have you been active in all these wells and in this pool?

A. Yes, I have.

Q. As part of your duties and responsibilities as a geophysicist, do you work on items in the North Hardy-Strawn Pool with other technical people?

A. Yes.

Q. Who are the members of your technical team?

A. Reservoir engineer is Joe Miller, production engineer is Mike O'Connor.

Q. Collectively, have the three of you continued to study this pool since its discovery?

A. Yes, we have.

Q. As a result of that effort and the continuation of the drilling, does the team have conclusions about this reservoir?

A. Yes, we do.

Q. What have the engineering technical experts concluded for you?

A. That this pool, the North Hardy-Strawn Pool, is a solution gas drive, that we have seen no pressure depletion

between wells, and drainage areas for the wells range from 80 acres to 190 acres, and the step-rate tests demonstrate that the wells can produce over 900 barrels of oil a day.

Q. Is there geologic and geophysical evidence that support those engineering conclusions?

A. Yes, there is.

Q. Let's take a moment and have you unfold what is marked as Exhibit Number 4. Identify what we're looking at.

A. This is a depth map on the top of the Strawn formation.

Q. The depth map would be used by a geophysicist such as you for what purpose, sir?

A. It is one of the lines of evidence that we use to choose locations and define the structure.

Q. All right, this would be evidence of the structural component of the reservoir --

A. True.

Q. -- correct?

A. Yes.

Q. From the discovery well -- And let's find the discovery well. It's in Section 36, and it's the blue dot up in the northeast quarter, and it has the value 26, and then below that it says 4044. Do you find that?

A. Yes, sir.

Q. That's the discovery well?

A. That is the discovery well, yes.

Q. Okay. Let's talk about the different components that you use as a geologist or a geophysicist to help decide what to do with well locations and development in the pool. Apart from structure, what are the other major components?

A. The stratigraphy involved in the reservoir is the primary control, I think, of the North Hardy-Strawn Pool.

Q. Let's take a moment and have you describe for me what you mean by stratigraphy.

A. It's the development of porosity and permeability within the formation. In carbonate rocks it can vary greatly from location to location.

Q. We often see simple, rather uniform sand reservoirs where the component will be exclusively a net-pay map of thickness, or it may introduce a structural component. Within that content, describe for me how and if your reservoir is different.

A. This reservoir, I believe, is different, and I think it can be demonstrated by looking at three of the wells that we drilled this year.

If you look in the very northeastern corner of Section 25, Well Number 139 was drilled there. If you go into Section 30, along the western edge you'll see Well

Number 134. And southeast of it, also in Section 30, is Well 137.

Q. You've just described the three wells that are outlined on the cross-section line, right?

A. No, I did two of those wells. The third well was the one southeast of the 134. What I was going to describe is how the reservoir quality changes between those three wells.

Q. Okay. Can you consistently pick locations based strictly on structure?

A. I believe in this pool, if you did use only structure you would be not as optimally located as you could if you use other lines of evidence.

Q. Are there wells you can illustrate on this display that demonstrate that point where you can be downstructure from a bad well and still have a good well?

A. Yes.

Q. Show us an example.

A. Those three wells that I described just a moment ago, 139, which is Section 25, 134 and 137 in Section 30, the 134 well produces between 100 and 200 barrels of oil a day. If you go to the north, to the 139 well, that well produces 1600 to 1800 barrels of oil a day. So it's almost an order of magnitude better, and it is downstructure from the 134 well.

The 137 well also is a 1000-barrel-a-day well, and it is downstructure from the 134 well.

Q. What we're looking at in Exhibit 4 represents your current conclusions based upon the available data from the 10 wells thus far drilled?

A. Yes.

Q. Has this map substantially changed from the initial mapping you made from the discovery well?

A. Not substantially, no.

Q. Okay. Let's look, then, at the other components. You've identified for us the structure. What are the other components of the reservoir that aid you as a geophysicist to decide where to place wells?

A. The stratigraphy within the Strawn is one of the most important considerations.

Q. Let's look at that. Can you illustrate that with your cross-section?

A. Yes, I can.

Q. Let's look at Exhibit 5 and take a moment and unfold it so that you can make that illustration for us. You've identified for us the three wells on the cross-section by relating it back to Exhibit 4. Let's now look at cross-section Exhibit 5 and have you explain what you're trying to illustrate. What are we looking at?

A. Okay, this cross-section has three wells located

on it, as shown on the map, going from A to A'. Let's look at the very right-hand edge of the map, and I'll describe the log panel that's there, and it's the same on all three wells, but we'll look through the SEMU 139 well first.

On the panel the log curves, the very leftmost curves, are the gamma-ray curves. We've got the regular gamma-ray plus the spectral gamma-ray. The black highlighting is showing where the gamma-ray is less than 30 API units. So that shows the cleaner carbonate rocks.

Working to the right, the blue arrows indicate the depths where we took sidewall cores that are shown also on this panel.

The next track is where we perforated this specific well, with the top and the base perfs marked, and there are five perf'd intervals on that well.

The next tracks are the depth tracks, both in measured depth and subsea depth.

The tracks after that are porosity curves. The blue curve is density porosity, the black curve is the neutron porosity. The green highlighting is where the gamma ray is less than 30 API units and the neutron porosity is greater than 10 percent. So that's the best reservoir quality, looking at the porosity curves.

The next panel is the PE curve, and the purple color is where the gamma ray is less than 30 API units and

the PE is less than 3.5, which generally indicates a dolomitic rock.

The panel to it is the resistivity curves, and the brown highlighting is where there is separation between the shallow and deeper resistivity curves, and that's a good indication of permeability.

Next are the sidewall cores, and there are photographs of 11 cores in natural light and UV light and the depth where those cores came from.

And the same displays for the other three wells on the curve, the other two wells on the cross-section.

Q. Let's look at the 139 well. It's the one on the far right?

A. Yes.

Q. This is the one that is deeper than the next one, which is the 134?

A. It is, yes.

Q. The 139 was a very successful well, and it has rates of more than 1000 barrels a day. It has the capacity to do that, does it not?

A. Yes, it does.

Q. It can do up to 1600 a day?

A. Yes.

Q. It is downstructure from the next well, which is the 134?

A. That is true.

Q. In the downstructure position, with the lithology at 134, that well only produces about 158 barrels a day?

A. True.

Q. So I can gain structure and get a substantially poorer-performing well?

A. Yes.

Q. Show me on the lithology of the cross-section why that would happen.

A. I think one of the best ways to look at it is, if you look at the sidewall cores, just the color under the natural light on the 136 well [*sic*], they're tan to gray. On some of the cores, like at 7707 feet, you can actually see large vugs in the rock.

If you go to the 134 well, you look at the colors and there's more gray, more shale content within the rocks.

And if you go further on to the 136 well, the one at the very left, you can see that most of those rocks are very dark. There's a high shale content within those cores.

Q. When we look at the 136 well, this is the well the farthest west that Conoco has drilled in the pool, trying to look for Strawn oil?

A. That is true.

Q. It's the farthest west, and it's the one that appears to be the deepest on structure?

A. True.

Q. In conducting the drilling or testing activities on that well, did you encounter any water?

A. No, we did not.

Q. What does that tell you?

A. It tells me that the reservoir quality varies, and we don't know if there is a water contact within the North Hardy-Strawn reservoir. We have not encountered it. We ran out of porous reservoir-quality rock, before we found the water contact.

Q. So when the reservoir engineer tells you that he has done his calculations and his tests and he believes he has a classic solution gas drive reservoir that doesn't have a water component to it or significance, then it appears from all your data that he is correct?

A. That is true.

Q. What are the conclusions you would like us to reach, Mr. Huck, by looking at your cross-section, Exhibit 5?

A. That structure is a component of choosing successful wells in the Strawn, or in the North Hardy-Strawn Pool, but primary importance is the reservoir quality. And we can demonstrate it just by these three

wells where they're all within a mile of one another and the reservoir quality varies dramatically.

Q. Are those three wells unique to the pool, or are they typical of the pool?

A. They are typical of the other wells in the pool.

Q. Let's turn to another component of your analysis. If you'll take a moment and unfold Exhibit Number 6, let's look at that. What are we looking at here, Mr. Huck?

A. This is a net pay map which was constructed using the wells in the North Hardy-Strawn Pool and the seismic interpretation which I have made to date.

Q. Describe for us how you prepared this.

A. I've interpreted the seismic data, tried to incorporate the stratigraphic changes which we've seen with the wells that we've drilled, and incorporate that into the interpretation and try to predict where I feel better quality rock may be encountered with future wells.

Q. Let's go back to the discovery well again. Let's start in the northeast quarter of 36. The map we're looking at now represents your work product now?

A. Yes, yes, this is my current interpretation of the North Hardy-Strawn Pool.

Q. And on this display you have data points. There are at least, I guess, 10 of the blue dots or the purple dots that are the control points in the pool for wells that

have been drilled by Conoco?

A. Yes.

Q. When you were doing the discovery well, Mr. Huck, this map did not look like this, did it?

A. No, it has changed quite a bit over the last year.

Q. And as each well is drilled and you get data available, you have revised your map with the new data, correct?

A. Yes, I have.

Q. All right. Let's start with what you now know, and let's look at, first of all, your opinion about the probable boundary of the pool. One of the decisions for the Division is whether or not they have to be concerned about overlap between pools. Are there any of those?

A. I don't believe so.

Q. What do you -- What is your opinion concerning the probable boundary of the pool, as you now have your data?

A. I think the color, the color contours and the color fill of the contours, is where my current estimate of the extent of the North Hardy-Strawn Pool at this point in time.

Q. Okay. Tell us how to read the color code. What's the significance of the color code?

A. On this map, the red colors are generally thin net pay numbers, and it grades through yellow to green, and the greens are the thickest net pays on this map.

Q. Okay. The strategy in locating these wells is to assimilate all the varying data and attempt to get good structural position, good reservoir quality; in terms of the lithology you're looking for clean dolomite, I guess?

A. Yes, that is true.

Q. And to find a point of clean dolomite where you have the possibility of having the greatest thickness?

A. That's true.

Q. Okay. The discovery well was the first well. We can see that it had the opportunity to achieve success because of its proximity to thickness?

A. True.

Q. All right, and the combination of the other components?

A. Exactly.

Q. All right. The second well that Conoco drilled was the 134 well, which on this display is over in Section 30. It's over in the northwest of the southwest, and it has the value, 25?

A. That is correct.

Q. That well, current rate is about 158 barrels a day, if I remember?

A. It is currently shut in in the Strawn, but when it was shut in it was producing at that rate, yes.

Q. Okay --

EXAMINER STOGNER: Okay, now let me stop you.

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: Okay, go over that again. Which well are we talking about?

MR. KELLAHIN: Yes, sir. If you'll look on Exhibit Number 6, Mr. Stogner, and you're going to look in the southwest quarter of 30, and there's two dots, one has a 40 value and the other says 25. It's the 25-valued well.

EXAMINER STOGNER: And that's the one that's shut in?

MR. KELLAHIN: Yes, sir, and it's the 134 well.

Q. (By Mr. Kellahin) When it was shut in it was at what? 158 barrels?

A. I believe so, yes.

Q. Let's make a comparison, is what I'm trying to set you up to do, Mr. Huck. Let's compare the 134 to the discovery well in terms of its success in relation to this net thickness map. What happened?

A. You can tell that the -- In the discovery well we had 46 feet of net pay in that well. In the 134 it was 25 feet. It's thinner, the porosity and the permeability in the 134 well is less than in the 26 well. And you can see

on the map that it is more in a reddish to orange color, where the discovery well is more in a green color.

So the quality of the rock, based on my analysis, is that the 26 well is far superior.

Q. Okay. Is this an illustration or example of how complicated and difficult it is to locate wells in this pool in order to achieve success?

A. Yes, it is.

Q. Let's go back to the discovery well; it's the one with the 46 value. There was activity around this well by Conoco in an attempt to further define the western portion of the pool, and that activity took place concerning the 25 A 3 well, and let's find that well.

A. The 25 A 3 well is in Section 25, the very southernmost well, marked by the number -- above the blue symbol it's the number 3, is there, and it's got 12 feet of net effective pay.

Q. All right. That well appears to be a producer. It's got the right color code.

A. It is a very poor producer.

Q. So you're trying -- You're looking for the western edge of the pool, you've offset the discovery well and you get a poor producer with the 25 A 3 well?

A. Yes.

Q. Approximately what kind of rate?

A. I believe it was last producing at about eight barrels a day.

Q. Okay. There's another location to the south of that that has got a dryhole symbol on it. What is that well? It's got a number 4, and then just above it it says number 29. Do you see that?

A. Yes, that was our State 36 Number 29 well. It's got about four feet of net pay in that well. We did not complete that and plugged that well as a dry hole.

Q. Okay. Why has it been necessary, Mr. Huck, to have -- We have a pool with 160-acre spacing, we have standard setbacks of 660 feet from the side boundary. Why have there been occasions for Conoco to ask for individual well exceptions in the pool? Why has that occurred?

A. Because as my analysis shows, the thicker, hopefully more porous zone of the reservoir are in very limited areas, and the spacing requirements are quite restrictive. So it -- On very few occasions have the two overlain to where we could drill a standard location.

Q. Do you have a plastic overlay that will help illustrate the dilemma that you have with regards to well locations?

A. Yes, I do.

MR. KELLAHIN: Mr. Examiner, I'll mark this as an exhibit in a moment. Here is the plastic overlay that Mr.

Huck uses to help him pick locations, and here's a hard copy of that overlay.

Mr. Examiner, we have marked the hard copy of the overlay as Exhibit 28. I apologize for not having more copies of the plastic overlay, but I've handed you our copy.

Q. (By Mr. Kellahin) And I'll ask Mr. Huck to help illustrate his dilemma and how he has to use that overlay in picking locations.

A. This display shows a full section. So the North Hardy-Strawn Pool is 160 acres, so we can look at the upper right-hand side -- quarter, of this section. And with the 660 setbacks from the exterior lines, 330 from the interior lines, the small white boxes marked "2.5 acres" -- there are four of them in that 160 -- those would be the only standard locations that you could drill, based on the current spacing rules.

Q. Okay. Thus far, Conoco has handled your desire to locate wells in the spacing unit where they were unorthodox based upon filing individual unorthodox well-location applications; is that not true?

A. That is true.

Q. Our proposal is to continue that process on a case-by-case basis, is it not?

A. True.

Q. Your development and drilling strategy as it has evolved, Mr. Huck, starting with the discovery well, has been to do what now? Summarize for us again how you go about trying to figure out where to put these wells.

A. It's a combination of a number of things, but I'm convinced that the better -- that to get the best wells you need to find the best quality rock. Structure is a component, but it's one of the minor components. I look at the seismic data, try to analyze and incorporate the existing wells to try to follow where I believe the better-quality rock goes.

My analysis is summarized in the net-pay map, so this net-pay map is one of the primary components in my choosing well locations.

Q. The 11th well that was recently drilled is in the northwest of 31. Do you have plans for any other wells?

A. Yes, we do. There are three proposed locations marked on this map.

Q. All right, let's find those for Mr. Stogner.

A. The well that -- In Section 25, on the very southeastern corner, you'll see there's an API number, 35156 with a 5 below it. That is the State 25 Number 5 well, and it may spud today. That is the first well that will be drilled.

Two other wells that probably will be drilled

next year, if you look in Section 19, in the southwestern --

Q. Let me go back to the last one. That's at a standard location, or was that an exception?

A. That is a standard location.

Q. All right, what's the next one?

A. The next well will be the SEMU 153, which is in Section 19. It's in the very southwestern corner, marked by the 153, and there's a small red circle below the 153. That's the proposed location.

Q. All right, and is that a standard location?

A. That is a standard location.

Q. Okay, any others on the list?

A. Yes, in Section 30 there's the SEMU 154. It is in the southeastern quarter section of Section 30 but in the northwestern portion, just pretty much below the zero, the big zero in 30, is a small 154 with a red circle below it. That is another proposed location.

Q. All right. The 154 would be in the southeast quarter of 30?

A. Yes.

Q. But it is going to be unorthodox because it's going to move farther west than standard, correct?

A. That is true, yes.

Q. Let me ask the Examiner to put his plastic

overlay over Section 30, and when he does that, Mr. Huck, what is he supposed to see in relationship to your requested location for that well?

A. I am trying to move towards the yellow colors, which show on this map a thicker net pay that's proposed at that location. And also on the structure map, you also move upstructure. So by moving it a little bit further west we gain both structure, and we gain what I think will be more favorable rock quality.

Q. Let me ask you before we leave Exhibit Number 6 to also turn to Exhibit Number 7. This is the 8-1/2-by-11 summary sheet. Let's look at Exhibit 7 and then have you summarize for us how you have evolved your opinions and conclusions concerning the development of the North Hardy-Strawn Pool.

A. Okay, what this spreadsheet shows is just kind of how the model has evolved over time with the additional data that we have acquired.

In 1998 we drilled the Hardy 36 Number 26 well, drilled dolomite and found a high producer. The next year, 1999, we drilled three wells back to back. Part of the idea of these wells was to move downstructure to see if we found a water contact or how the reservoir changed. In this case, the further downstructure we moved, we found more shale, toward the last well drilled, the 136, found

shale completely, and that well was not completed.

So the first well was a low producer, the second well we completed, but it did not flow or produce at commercial rates, and the 136 we did not complete.

The model was re-evaluated after all that new information, and it was changed. And in 2000 we have drilled seven wells so far, spudding an eighth one very shortly, and you can see that we've encountered a lot of dolomite and have had some very high-producing wells.

So the model has been evolving as we get more data, and I think we're refining that, so this year we've had a very successful year.

MR. KELLAHIN: Mr. Examiner, that concludes my examination of Mr. Huck. We move the introduction of his Exhibits 4 through 7 --

EXAMINER STOGNER: Exhibits 4 through 7 will be admitted into evidence, and --

MR. KELLAHIN: -- and in addition, 28 is the overlay.

EXAMINER STOGNER: -- and also Exhibit Number 28 will be admitted into evidence at this time in these consolidated cases.

EXAMINATION

BY EXAMINER STOGNER:

Q. You made a statement in your testimony about

locations, and I believe it was something to the effect of the restrictiveness. Now, you're talking about the restrictiveness for a geophysicist, a geologist?

A. What I was saying was, to have a standard location for a Strawn well --

Q. Uh-huh, you're --

A. -- the --

Q. -- you're testifying as a geophysicist?

A. Yes.

Q. So these pesky lines sort of get in your way. I mean, if it was like an offshore area or somewhere in Saudi Arabia, you wouldn't have this problem, would you?

A. I don't know what the various restrictions are in those countries.

Q. As a geophysicist, you probably wouldn't. But there's other factors you're not aware of; is that correct?

A. I don't understand what you're --

Q. About the restriction of these well locations, the existence of them and why they --

A. Here in Lea County, New Mexico?

Q. Anywhere.

A. I believe there are reasons why, yes --

Q. Okay.

A. -- they do exist.

EXAMINER STOGNER: Tell you what, I do have a

question for Mr. Rule.

MR. KELLAHIN: All right, sir.

EXAMINER STOGNER: Why don't you bring him up next to you, Mr. Kellahin?

MR. KELLAHIN: Mr. Rule, why don't you slide up with me?

CHARLES RULE (Recalled),

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

EXAMINATION

BY EXAMINER STOGNER:

Q. I'm going to refer to Exhibit Number 1, and with his information that witness number two has just provided, Mr. Huck, looking at the Southeast Monument Unit participating area for the Strawn, am I reading this right, that there's 80 acres in the north half of the southeast quarter and the north half of the southwest quarter?

A. Of Section 30?

Q. Yeah.

A. Yes, that's correct.

Q. And isn't this unusual that the whole proration unit or spacing unit is not pulled in for the participating area?

A. Yes, it is. And the reason we did that is, you've got the unit boundary line, runs right along those

two 80-acre tracts. So we couldn't have the participating area extend outside of the unit boundary. So that's why we cut it off there.

Those two wells, the proration unit for those two wells, are half in the unit and half out.

Q. Okay. Yeah, it does get confusing, doesn't it? Thinking of the solid line as the unitized area.

A. No, the solid line is the proration unit.

Q. Okay.

A. So we've been straddling the unit boundary line on several of these wells.

Q. Okay, I see now. It just started getting a little bit confusing whenever you're looking at the colors and the different lines, I apologize.

A. Got a little busy, I apologize for that.

EXAMINER STOGNER: Okay let's go back to Mr. Huck.

JOSEPH L. HUCK (Continued),

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

EXAMINATION (Continued)

BY EXAMINER STOGNER:

Q. In Exhibit Number 6, now, I'm going to look in Section Number 25. Okay, that Well Number 135 --

A. Yes.

Q. -- there was only six feet of thickness found there?

A. Yes.

Q. Is this what you anticipated when you drilled it?

A. No.

Q. What did your information show and what did you expect to find whenever you proposed that well?

A. The interpretation was quite different from what you see here. We expected the good-quality rock we found in the 26 well, the discovery well, to continue to thicken as we moved offstructure. That did not happen. The Strawn interval did thicken, but the clean carbonate and dolomite was not present and it was pretty much replaced by shale.

Q. Okay, go down to Section Number 36 to the south --

A. Yes.

Q. -- especially in the southwest quarter, in Sec- -- it looks like -- I guess these are well numbers, 1 and 21?

A. Yes, those are well numbers, just above the symbols are well numbers.

Q. Okay. Now, are those Strawn producers like they show in Exhibit Number 1? I know Exhibit Number 1 wasn't one of yours, but...

A. Those are Strawn producers, but in the South Cass

Pool.

Q. Okay, is that a deeper pool, or is it along the same vertical interval?

A. It is in the same Pennsylvanian-age Strawn rocks, yes.

Q. But from a different common source of supply. Could you kind of elaborate on that pool down there and how they're separated?

A. Yes. In the hearing that I believe we did in May 13th of 1999, when we established the North Hardy-Strawn Pool, the lithology of the 26 well was dolomite, the producing interval; and the 1 well, the 21 well in the South Cass Pool, is a limestone. So we got a pool separation based on the lithology.

Q. So we're not going to see that interval that the wells in the southwest are producing, either being above or below the Hardy-Strawn Pool --

A. I don't --

Q. -- on your maps?

A. The North Hardy-Strawn Pool, I believe we will not.

Q. Okay. Now, your Exhibit Number 6 was prepared in October; is that correct?

A. Yes, it looks like it, October 18th.

Q. Okay. I mean, that's a pretty exact map at this

point so there's been a lot of information, I guess, provided over the years, or looked at over the years, depending on --

A. That's true, yes.

Q. I guess if I'm looking at the northwest quarter of Section 31, how do I know that there's a zero thickness there? I mean, is that what is showing up on some -- Are you doing other geophysical interpretations on the old data, or are you running new geophysical lines?

A. No, the 3-D seismic data that we're using is Western Spec data, and we've had it for two to three years, I guess. So no, we have not acquired new seismic data over this area. It's just looking at and trying to understand and see in the seismic reflectors how the rock quality changes and try to make extrapolations based on the newest well points that we get.

Q. Now, when I look at these three proposed wells, 153, 5 and 154, are these the only proposed wells, or are there more after this?

A. At this point -- Well, those are the only proposed wells. We are also considering additional wells.

Q. How many others are you considering?

A. That target would move quite a bit, but right now I would say there's probably -- definitely one other one, and then I believe there's a request for a horizontal

sidetrack out of one of the wells, probably on your desk.

EXAMINER STOGNER: Yeah, and I'll take administrative notice of that. I did receive a horizontal request from Conoco. I don't remember what date, but -- In fact, I may see fitting subsequent to this hearing --

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: -- to perhaps include, in an order issued, reference to that --

MR. KELLAHIN: All right, sir.

EXAMINER STOGNER: -- that it covers not only these two cases but that authorization also.

Q. (By Examiner Stogner) Do you know which well is horizontal, since we're kind of on this right now?

A. Yes, it is proposed out of the Hardy 36 Number 27 well, which is in the southeastern quarter of Section 36. It has a net pay number of 28 feet.

Q. And which direction is that horizontal bore going?

A. We are going generally east. I believe it's slightly southeast. East southeast, I guess it would be.

EXAMINER STOGNER: Okay, I don't believe I have any other questions of this witness at this time.

MR. KELLAHIN: All right, sir.

Mr. Miller.

EXAMINER STOGNER: Mr. Kellahin?

JOSEPH A. MILLER,

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. Miller, for the record, sir, would you please state your name and occupation?

A. Yes, my name is Joe Miller and I'm a petroleum engineer with Conoco, Incorporated, in Midland.

Q. Mr. Miller, were you the reservoir engineer that testified before the Division back in May of 1999 on the discovery well application for special pool rules?

A. Yes, I was.

Q. And have you been continuing your activities in that capacity on behalf of your company to continue to study these wells in the North Hardy-Strawn Pool?

A. Yes, I have.

Q. And based upon that study, do you now have recommendations and conclusions for the Examiner?

A. Yes, I do.

MR. KELLAHIN: We tender Mr. Miller as an expert reservoir engineer.

EXAMINER STOGNER: Mr. Miller is so qualified.

Q. (By Mr. Kellahin) Mr. Miller, before we look at your individual displays, would you take a moment and

summarize your recommendations and conclusions for the Examiner?

A. Yes, my primary conclusions that I'll be sharing today is that the dominant drive mechanism for the North Hardy-Strawn Pool is a volumetric solution gas drive reservoir, and that 160-acre well spacing is the most appropriate spacing at this time, and high individual well flow rates can be achieved when dolomitic reservoir is encountered, which is consistent with our geologic picture.

Q. Let's turn to your Exhibit Number 8 and have you identify that.

A. Exhibit Number 8, labeled "North Hardy Strawn Basic Well and Reservoir Data".

Q. When we look at the data points, are the wells arranged in a descending order so they're chronological in sequence?

A. Yes, they are.

Q. The discovery well is on top, and then the last well that was completed is the one on the bottom?

A. That is correct.

Q. All right. Have you satisfied yourself that this, in fact, is a solution gas drive reservoir?

A. Yes, I have.

Q. Do you have any indications in the reservoir, based upon your study, that there was a primary or a

secondary gas cap formed or being formed?

A. No, I do not believe there is a primary or secondary gas cap, formed or being formed.

Q. If the Division increases the oil allowable to 900 barrels a day, are you asking for any adjustment in the GOR?

A. No, I am not.

Q. So you will be GOR-restricted to the statewide rule of 2000 to 1?

A. That is correct.

Q. Within that range, as the ceiling on gas, do these wells still demonstrate an ability to produce in excess of the 600 barrels a day?

A. These wells are capable of producing in excess of 600 barrels of oil per day.

Q. All right, there are some that don't produce at all, but --

A. True.

Q. Of the ten wells, approximately how many wells are still producing?

A. There are currently seven wells producing from the North Hardy-Strawn Pool.

Q. As we review the data -- Do you have pressure data on these wells?

A. Yes, I have pressure buildup data, seven-day

pressure buildups on a majority of these wells.

Q. All right. So we can see when we look at the pressure data whether or not there is any evidence of communication among the wells?

A. That is correct.

Q. And there is or is not?

A. There is very little, if there is any, pressure communication between the wells.

Q. Let's start with Exhibit 8, then, and tell us what conclusions you would like us to reach when we look at this information.

A. Okay. From the production data, from the basic production data, a general characterization can be made that due to the very minor amounts to no water production, that a water drive was not encountered.

And also from the GOR information, listed is both the initial GOR and also the current GOR. And as you can see, not only are they very low GORs, indicating that an initial gas cap was not present, but because the current GORs are very similar -- some are even lower than the initial GOR -- that a secondary gas cap does not exist, is not being formed, and that this looks like a typical solution gas drive from production data.

Q. When we look at the reservoir pressure data, which is -- after the well name, it's the second column

over. You've got a completion date and your reservoir pressure data. As we go down the list and look at subsequent wells, does this tell you anything about communication?

A. Yes, it does. I believe the pressure information tells me that the wells are draining their own unique reserves. There is not pressure communication, or very little pressure communication, between the wells. If there was pressure communication between the wells, between two and a half years ago the Hardy 26 was drilled, today it's at 1200 or 1400 pounds of pressure, and because the subsequent wells have near original reservoir pressure, that drainage across proration units has not occurred.

Q. So you're not across proration units, but between wells --

A. Yeah, right.

Q. -- and among well populations --

A. Yes.

Q. -- the wells don't know what their proration units are, do they?

A. That's true.

Q. All right. So when we look at the pressure data among the wells -- Let's look at that, let's look at Exhibit 9.

A. Exhibit 9 is a plot of the data from Exhibit 8,

but put on a per-foot basis. It is the pressure data per foot of pressure gradient. And the wells listed across the bottom, X axis, are also listed chronologically.

Q. Okay. Again, the conclusion is -- ?

A. The conclusion is that because the later wells have nearly the same pressure as the original wells drilled two and a half years prior, that there is not communication between these wells.

Q. All right. So the regulatory concept of wider spacing pattern in this pool, the 160-acre spacing, has been appropriate insofar as the well population is not too dense for the reservoir?

A. That's correct.

Q. Okay. Let's turn to Exhibit Number 10 and have you identify that.

A. Exhibit Number 10 is labeled "North Hardy Strawn Basic Well and Reservoir Data, Electric Log and Pressure Build-Up Characteristics".

Q. Let's go to the bottom line, which is the column on the far right. We'll come back to the rest of the data points. But as you look at your calculations of drainage areas, for those wells for which there was data, you have calculated all the drainage areas?

A. Yes, I have.

Q. And where you haven't, it's simply because you

didn't have a well that produced, in one instance, eight barrels, and the rest didn't produce at all, right?

A. That is correct.

Q. Okay. For all those wells that are producing wells, the smallest area you can calculate using standard engineering methodology is 80 acres?

A. That's correct.

Q. And what is the largest area?

A. 190 areas would be the largest drainage radius, or drainage area, calculated.

Q. So when the Division is selecting through the sizes of spacing units that are used on a standard basis in New Mexico, 40s, 80s, 160s, 320s, 640s, what in your opinion is the best fit?

A. I believe that 160-acre well spacing is the most appropriate.

Q. Okay. Describe for us the producing rates of the well. There's a column here that shows us the producing rates, and I guess this was September rates?

A. Yes, that's correct.

Q. Let's find that column and describe what happens with these wells.

A. At the -- almost the right side of this table is the production rates, September rates, barrels of oil per day, MCF per day, and barrels of water per day.

Q. The discovery well is still doing 912 a day?

A. The Hardy 36 State Number 26 discovery well, in September, was doing 912 barrels of oil per day.

Q. You've got some wells on here that have rates higher than the allowable. Are those the wells that relate to the step-rate testing?

A. That is correct.

Q. Let's identify for the Examiner the three wells that were the subject of the step-rate tests.

A. The three wells are the Meyer B-31 Number 5, D.M. Warren Number 137, and the SEMU 139, and I believe also -- we will not be showing a fourth well, but the Hardy 36 State Number 26 was also given temporary permission to produce at -- do a step-rate test.

Q. These were written requests by Conoco to Mr. Chris Williams in the District Office in Hobbs, and you obtained approval to conduct these tests?

A. That's correct.

Q. As a result of these tests, what data did you obtain?

A. We obtained data that suggested that the optimum efficient and economic rate was above 600 barrels of oil per day.

Q. And what you're showing here is the capacity of certain wells to do that?

A. Yes. This data indicates the capacity of four wells to produce at higher than the current allowable rate.

Q. Let's move over to the left a column, the transmissibility column. Is that data important to you?

A. Yes, the transmissibility, commonly known as the ability of the -- or of the flow rate -- the higher the transmissibility, typically the higher the flow rate on the well. This data is collected from pressure buildups, and it is defined as the permeability times the thickness, divided by the viscosity of the fluid.

Q. All right, sir. What conclusions do you want to express with regards to this display?

A. That the pressure buildup data and volumetric log calculations, coupled with production data, indicate that the individual producers are capable of draining between 80 and 190 acres, and also that the general character of the reservoir is somewhat predictable, based on buildups and log data, and that is that thicker, higher porosity, lower water saturations, higher permeabilities, higher transmissibilities, fundamental engineering is predictable. It follows with flow rates.

Q. Let's turn to Exhibit 11 and have you identify and describe this display.

A. Exhibit 11 is a bar chart that displays the predictable nature from buildup analysis, the ability to

predict flow rates.

Q. Turn to Exhibit 12, Mr. Miller. Would you identify and describe for us Exhibit Number 12?

A. Exhibit 12, labeled "Shale Content and Water Saturation vs Flowrate", is a bar chart that also works -- or this bar chart also confirms the geologic notions that dolomite is very important, lithology is very important, and also that the lower water saturations or less shale content is also very important for predicting flow rates.

Q. For example, in the far right column, the 139 well --

A. Yes.

Q. -- Mr. Huck demonstrated that he anticipates that to have good, clean dolomite, and the production information supports that it is dependent upon that characteristic, is it not?

A. Yes, it has one of the lowest water saturations, lowest amount of shale, is one of the highest producers, the highest producer.

Q. All right, sir, let's turn to Exhibit 13, have you identify and describe this for us. What is this?

A. Exhibit 13 is the production history of the discovery well, the Hardy 36 State Number 26.

Q. What conclusions do you reach, looking at the production data?

A. The production data on this well, my conclusions are that the reservoir -- this supports that the reservoir is a solution gas drive reservoir, that no reservoir damage has occurred to date and no waste of reservoir energy has been witnessed after producing at very high rates for a period of two and a half years.

Q. If the high rates were having an adverse effect on the reservoir, you would have seen something other than this reasonably flat gas-oil ratio line?

A. That is true.

Q. All right, sir. Turn to Exhibit 14 for us. What is displayed on Exhibit Number 14?

A. Exhibit 14 is an output plot from a material balance simulation, utilizing PVT data collected on the discovery well, the Hardy 36 State Number 26.

Q. What conclusions do you reach?

A. That this plot indicates that the material balance simulation is of a solution gas drive reservoir.

Q. If it was not matched to a solution gas drive reservoir, you would have a different configuration of your curve?

A. Yes. As you can see, the observed data, the actual plotted green triangles, versus what the model predicted, which is the dark blue line, and that the observed data matches very well with what the model

predicted. And there is a very low standard deviation of error for this plot, indicating that solution gas drive is the correct model.

Q. In all the ways you've looked at this reservoir, it still pops up as a solution gas drive reservoir, doesn't it?

A. Yes, it does.

Q. Let's turn to Exhibit 15. What are we looking at here?

A. Exhibit 15 is also an output plot to the material balance simulation software.

Q. What conclusions do you reach?

A. The conclusions from this plot is that it is a solution gas drive reservoir, that the voidage replacement or the contribution of energy is from both oil expansion and connate water and rock expansion, that there is no water influx involved, no reservoir energy being provided by water influx from a water aquifer, and that there's no reservoir energy being provided by gas cap expansion.

Q. Do you see any indications, Mr. Miller, that there's any probability of adverse consequences to the reservoir if the Division approves your request to increase the allowable to 900 barrels a day?

A. I do not believe so.

MR. KELLAHIN: That concludes my examination of

Mr. Miller.

We move the introduction of his Exhibits 8 through 15.

EXAMINER STOGNER: Exhibits 8 through 15 will be admitted into evidence at this time.

What is your fourth witness?

MR. KELLAHIN: Mr. O'Connor is going to present the step-rate data.

EXAMINER STOGNER: Okay. I'm going to jump back to Mr. Rule again, because there's some information coming and I'm expecting some of this, and I want to get this information out before I ask Mr. Miller some questions.

CHARLES RULE (Recalled),

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

EXAMINATION

BY EXAMINER STOGNER:

Q. In referring to Exhibits Number 2 and 3 -- this is the letters from Chevron and Atlantic Richfield -- it states in both of them that the meeting on September the 12th that Conoco had with the working interest owners in the Southeast Monument Unit, who all was in attendance?

A. Well, there were representatives from all three companies involved. I don't know all the names of everybody that was there.

Q. Okay, let me rephrase that. What companies were represented at that meeting?

A. What other companies?

Q. Yes.

A. There were no other -- These are the three only working interest owners in the pool.

Q. Okay, I'm talking about the Southeast Monument Unit working interests, that's the way I read that statement.

A. Yes, sir, that's Conoco, ARCO and Chevron.

Q. Those are the only three in that whole vast Southeast Monument Unit area?

A. Yes, sir.

Q. Okay, one other question along these same lines, and this is just some clarification. You have two wells, one is shut in, in the southwest quarter of Section 30?

A. Yes, the 134 is shut in, in the Strawn.

Q. Okay. Now, because the proration unit is 160 acres, it's going to cross that unit boundary line?

A. That's correct.

Q. Now, regardless of where the production is, either in the unit or outside the unit, will that production be distributed equally with those interests as the unit interests and those outside the unit interest?

A. Yes, we communitized the southwest quarter, and

so the production is -- 50 percent goes to the unit owners and 50 percent goes to the lease owners.

EXAMINER STOGNER: Okay. Thank you, Mr. Rule, I just wanted to clarify some things.

MR. RULE: Okay.

EXAMINER STOGNER: -- and you did.

JOSEPH A. MILLER (Continued),

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

EXAMINATION

BY EXAMINER STOGNER:

Q. Okay, Mr. Miller, Exhibit Number 10, you're talking about the drainage areas. Am I to assume -- Well, let's take the Number 26.

A. Yes, sir.

Q. The 190 acres is what you've computed as the drainage area --

A. That's correct.

Q. -- which is what, about 1350 feet? If you're assuming -- and that -- Okay, let me rephrase that. Assume a nice, homogeneous drainage. That would be about 1350 feet of drainage, or effective drainage; is that right?

A. I'll take -- I believe it's in that range, yes.

Q. Something like that. In other words, it's going to have whatever the circle is, 190 acres?

A. (Nods)

Q. That's "yes"? Okay.

A. Yes.

Q. If you drilled a well within that circle, are you going to see a pressure decrease in that drainage area?

A. Over time, yes, as you produce that well the pressure in that drainage circle will be reduced.

Q. In this pool, is that going to be a linear type curve, as far as pressure goes, from the wellbore, increasing out to this effective drainage area?

A. That would be a way to model it, that would probably be accurate, yes.

Q. How are these wells completed and stimulated? Is that in your area of expertise?

A. I can comment on that. However, the next witness would probably be better at answering.

Q. Okay. Well, I'll just save that for the next witness.

Okay, when I look at Exhibit Number 8, you said there are seven currently producing wells, and those are the ones that -- Well, which ones are they? Let's identify those first. Which ones are currently produced?

A. The Hardy 36 State Number 26 is currently producing, the Hardy 36 State Number 27 is currently producing, Meyer B-31 Number 5, D.M. Warren Number 137, and

the SEMU 139, and then one additional well that is not listed because I did not have the pressure buildup data, or we have just very initial production data, is the Meyer B-31 Number 6.

Q. That's not identified on your list in Exhibits 8 or 10?

A. That's correct.

Q. Okay now, which well is that? If I look over at one of the --

A. That's the Meyer B-31 Number 6. It is located in the northwest quarter of Section 31, 20-38.

Q. I count six wells. What's the seventh? You said the 26, 27, 5, 137, 139 and Number 5.

A. That is my mistake. The State 25 A Number 3 currently is not producing. This shows it as producing in September at eight barrels a day.

Q. Okay, so -- Okay, there's only six producing wells ten?

A. Yes, that's correct.

Q. Are you doing some work some work on the Number 3 to get it back on line, or...

A. Actually, the State 25 A Number 3 is being recompleted to an uphole formation.

EXAMINER STOGNER: I have no other questions of this witness at this time.

Mr. Kellahin?

MR. KELLAHIN: All right, sir, thank you.

Mr. O'Connor?

MIKE O'CONNOR,

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. O'Connor, for the record, sir, would you please state your name and occupation?

A. My name is Mike O'Connor, I'm a petroleum engineer with Conoco.

Q. And where do you reside, sir?

A. In Midland.

Q. On prior occasions have you testified before the Division?

A. No, I have not.

Q. When and where did you obtain your engineering degree?

A. I graduated from the University of Oklahoma in 1979. I've been working for Conoco for the past 21 years in the capacity of petroleum engineer, production engineer.

Q. As part of your responsibilities as a production engineer, have you been responsible for supervising the step-rate tests that we've described this morning to Mr.

Stogner concerning three of the North Hardy-Strawn Pool wells?

A. Yes, I have.

Q. In addition, have you made calculations concerning what, in your opinion, is the best economic way to produce these wells once they stop becoming flowing wells?

A. That's correct.

Q. Let's turn to the first part of your presentation, and that is the step-rate test. Your exhibits are arranged where you have similar data on all three wells?

A. That's correct.

Q. Is the data consistent with your conclusion on all three wells?

A. Yes, it is.

Q. Select one of the three, and let's go through that as a sample and not do the other two.

A. Okay, let's take a look at D.M. Warren 137.

Q. The 137 well. All right, let's start with Exhibit 16 and have you identify what we're seeing here.

A. Okay, this first exhibit, 16, is a graph of the data, the results from the D.M. Warren 137 step-rate test that was taken earlier this year.

Along the Y axis on the left-hand side of the

graph is production. On the right-hand side of the graph is a scale of the sandface pressure; that's the bottomhole flowing pressure. And of course along the X axis is the time.

If you take a look at the graph, the green points with the green line is the production rate, the red points with the red line is the bottomhole flowing pressure.

Q. This is simply an illustration of the data obtained from the step-rate test?

A. That's correct.

Q. Is this data accurate, to the best of your knowledge?

A. Yes, it is.

Q. And this was done pursuant to the approval of the District Office for the step rate?

A. That's correct.

Q. Let's take this information, then, set it aside, and look at Exhibit 17 and have you describe that.

A. Okay. If you take these data points from the step-rate test and you plot them on the next graph, which is Exhibit 17, you have the sandface flowing pressure on the Y axis, on the left-hand side; you have the producing rate at the bottom. If you draw a best-fit curve through these data points, we derive an inflow performance relationship curve, or an IPR curve, and that's what's

illustrated on Exhibit 17.

Q. Having made the illustration of the best-fit curve, what does it show you?

A. It shows you, of course, that the well can produce up to 1000 barrels of oil per day as a flowing well. It also shows you what the well is capable of producing if the bottomhole flowing pressure declined or depleted -- not depleted, but declined to, say, 200 pounds, it shows that the well would have the capacity to produce in the range of 1600 to 1800 barrels of oil per day, at a bottomhole point pressure of 200 pounds.

Q. Having found that you have a population of wells, by step-rate tests and other performances, that have the capacity to produce in excess of the current 600 barrels of oil a day, how do you make the decision about what rate is appropriate for the pool? How did you pick 900 barrels a day?

A. We picked it as being the most economic, efficient way of producing these high-capacity wells.

Q. There's a cost component to how you produce these wells; is that not true?

A. That's correct.

Q. All right. Let's turn to the analysis of your recommendation concerning that rate. If you'll turn to Exhibit 18, we have a larger copy for helping us keep track

of the curves. Let me take a moment and bring that forward for you, Mr. O'Connor.

Now, I want you to take some care in making sure you don't say "this", "that" and "there", because --

A. Okay.

Q. -- the court reporter will go nuts.

A. Okay.

Q. So if you'll take a moment, let's look at Exhibit 18, and let's start with the hard line, the control points. If you'll identify the curve, and then we'll start illustrating the display.

A. Okay, this is a well file performance analysis performed on the D.M. 137 well. Curve A is what is called the outflow curve, and it is a constant. It takes into account the configuration of the wellbore, the tubing string, the depth of the well, the hydrostatic head of the fluids inside the tubing string, and the system, flowing system, on the surface. It stays constant throughout the history of the well, unless we make a change in the equipment.

Q. Now, you'll have a similar curve for the other two step-rate test wells, but let's use this one for illustration purposes.

A. Okay.

Q. The line, the outflow curved line that you've

just described, is a stationary curved line that is for the life of the well?

A. That's correct.

Q. Above that curve there's a shaded area in red. What does that signify?

A. This signifies a region in which we predict that the well will continue to flow naturally, without the use of artificial lift.

Q. Either by a beam pump or a submersible pump, any artificial means, you won't need that activity above that curve?

A. That's correct.

Q. All right. Below the curve there's an area that's shaded in blue. What does that represent?

A. This signifies a time in the life of the well that the well will load up and die, and it will no longer have the capacity to produce naturally. An artificial lift will have to be installed to produce the well.

Q. When we go down to the green-hached area on the display, what does that represent?

A. This area represents an area that we can design conventional beam-pumping equipment to produce the well at a range up to 400 to 450 barrels of oil per day.

Q. On the vertical scale you've got pressure. On the horizontal scale you've got a rate?

A. That's correct.

Q. How do you integrate or relate the two to each other?

A. Okay, this is very similar to the previous exhibit. On the vertical scale it's the downhole pressure, downhole flowing pressure. On the bottom scale is rate. Curve one is the IPR curve; it's very similar to the IPR curve that we just got through looking at in the previous exhibit.

Q. When I look at this display, you told me in the past exhibit that the 137 well has the capacity to produce what was more than 1600 a day, I think. How is that information plotted on this display?

A. Okay, if you take a look at the left-hand side of the graph and you look at 250 pounds bottomhole flowing pressure, and you go out to the intersection of curve one, that would be very similar to the 1600 barrels a day that we talked about in the previous curve.

The difference between the previous curve and this curve is, the previous curve is constructed off the actual step-rate-test data; these curves are derived from the pressure-buildup data and petrophysical data.

Q. All right. Keep your pointer on curve one. Now step back to curve two and explain what that curve is.

A. Curve two is the IPR curve of the well at or as

of a couple weeks ago, the current condition of the well. This curve was built on a declined reservoir pressure from the original reservoir pressure of 2557 pounds, down to an estimated reservoir pressure of 2175 pounds.

Q. All right. So if I know my well's on the curve-two plot and I read it up the scale, I know I'm still in the flowing phase of the well?

A. That's correct. The intersection of curve two to the outflow curve, curve A, illustrates at about where the well is as of a couple weeks ago, and that was producing about 640 barrels a day.

Q. When we get down to curve three, what happens then?

A. Okay, curve three was built on a reservoir pressure of about 1950 pounds, and basically the intersection of curve three to the outflow curve A, at that point is where we expect the well to load up and die. At that point, some sort of artificial lift will have to be installed to produce the well.

Q. When I follow the outflow curve -- it's the first curve we talked about; put your pointer on the outflow-curve line -- as you move from right to left it's got the first red dot, the second red dot and then a blue dot?

A. That's correct.

Q. What do those dots represent?

A. The intersection of the first red dot, IPR curve one to curve A, represents the well, the capacity at the original completion.

The second red dot, the intersection of curve two to the outflow curve, is as of a couple weeks ago the current producing rate and the IPR curve at current conditions.

As we move to the left, as the reservoir pressure continues to decline, we move to the blue dot. At that point the well will load up and die. At that point some sort of artificial lift will have to be placed on the well.

Q. You now have to make an economic decision concerning how to produce your well, because it won't produce by itself?

A. That's correct.

Q. And your choices are a beam-pump arrangement, or you can go to submersible-pump technology?

A. That's correct.

Q. Your recommendation is to use submersible pumps, is it not?

A. Yes, it is.

Q. In order to achieve that success economically, it's necessary to have an allowable higher than the 600 barrels a day?

A. That's correct.

Q. How did you choose 900?

A. If you take a look at the intersection or the blue doe and you follow the arrows along the IPR curve down to the intersection of the horizontal blue areas, which would be about a 400-pound intake pressure, or 400-p.s.i. bottomhole flowing pressure of the well, it illustrates that at the time the well loads up, if we installed high-volume lift equipment and electrical submersible pump, the well could be produced at rates in the 1000-barrels-of-oil-per-day range.

Q. All right. And the choice would be to set a cap on the pool and this well at 900 a day?

A. That's correct.

Q. That's the most economic way to continue to produce these wells?

A. It is.

Q. If you were required to stay with the current 600 barrels of oil a day, would it be economic to establish downhole submersible pump equipment in these wells?

A. No, it would not.

Q. Let's turn to Exhibit Number 19. Identify that for us.

A. Exhibit Number 19 is the production history of the D.M. Warren 137 from about June the 9th through October the 24th. On the left-hand scale is the production rate,

on the right-hand scale is the gas-to-oil ratio. The green lines and dots represent the production rate, and the blue line and blue dots represent the gas-oil ratio.

As you can see, this well started out just over 1000 barrels a day. As of a couple weeks ago, it was producing at a rate of about 640 barrels a day, and the GOR has remained relatively constant throughout the production life of the well so far.

Q. Mr. O'Connor, do you concur with Mr. Miller's opinion that the allowable in this pool can be increased to 900 barrels a day without causing reservoir damage?

A. Yes, I do.

MR. KELLAHIN: That concludes my examination of Mr. O'Connor. We move the introduction of his Exhibits 16 through 27.

EXAMINER STOGNER: Exhibits 16 through 27 will be admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. Okay, referring to Exhibit Number 18 -- Oh, by the way, on Exhibit Number 18, when the witness refers to the "blue dot", this actually shows up as black on Exhibit Number 18, so we'll just make a note of that.

Okay, is the 900 that you're requesting -- It shows here on this that you can go up to 1000 barrels of

oil per day, but is that 900 giving you some sort of a safety margin, or how should I interpret your 900 request?

A. We came up with that number based on the fact that we can design conventional beam-pumping-unit equipment to produce in the range up to 400, maybe 450 barrels a day at this depth. We can design an electrical submersible pump to have a range of about 500 barrels a day. So if we use one electrical submersible pump installation, we can get from 900 barrels a day down to the beam pump.

If we went above 900 barrels a day, we'd have to put essentially ESPs in the well to be able to produce above that 900 barrels a day.

Q. Based purely on economics and the ability of the equipment, is that how that should be interpreted?

A. That's correct, yes, sir.

Q. Now, is it Conoco's practice or in reality out here to let the well flow until it reaches about 300 barrels a day, and then put the beam pump on, or will you be putting the submersible pump on prior, or to assist the flow?

A. Up until this point, we did not want to incur the expense of putting an ESP in the wells. You certainly could, but with any artificial-lift equipment, there's a time period at which that equipment will fail. So it was our intent and we think the most efficient way of doing

this is to allow it to flow until it gets down to the point close to being a load-up condition, then install the pump and increase the rates back to 900 barrels a day.

Q. What wells have submersible pumps on them now?

A. The Hardy 36 Number 26 well has a submersible pump. We also have an ESP in the Hardy 36 Number 27 well.

Q. What's the depth of those wells again?

A. Total depth is probably 8000 feet. The formation is approximately 7600, 7700 feet.

Q. What is the capability of a submersible pump, as far as depth, these days?

A. We've run them as deep as 10,000 or 12,000 feet.

Q. What's the deepest these days you can go with a submersible? You've gone 10,000, but what is the manufacturer suggesting?

A. I couldn't answer that.

Q. None of them are -- Oh, you do have one on beam pump; is that correct? Or is that -- No, that's the well that's abandoned, the Number 3?

A. Which well is that? I'm sorry.

Q. The State 25 A Well Number 3 --

A. That's correct.

Q. -- you have a beam pump on that?

Did it have a --

A. That -- I'm sorry. That is the well that we're

currently recompleting to the Tubb.

Q. Okay, on this well, when it was producing in the Strawn, it was flowing initially?

A. No, it was not.

Q. Okay, did you put a beam pump on first, or did you try submerging?

A. No, that would not produce in economic rates for a submersible.

Q. Okay.

A. I don't recall the length of time that we had tested on beam pump.

Q. My next question is for either engineer who can answer it. What about infill prospects out here later on? What's Conoco's plans or thoughts?

A. I'd defer that to Joe Miller.

JOSEPH A. MILLER (Recalled),

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

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Miller, why don't you sit by Mr. Kellahin there and speak loud.

A. Mr. Kellahin, I do believe we will have some infill projects on this field.

Q. Okay, to what degree?

A. There will be instances where the pressure buildup data and the well performance indicates that a second well will be necessary to fully drain the 160-acre government quarter section.

Q. Do you think every proration unit will have an infill well?

A. No, I do not. For instance, the discovery well, the Hardy 36 State Number 26, seems to be efficiently draining is 160 acres, and we'll likely not have a second well in that quarter section.

But there are instances, as we have already put a second well in the southwest quarter of Section 30 with the Wells Number 134 and Wells Number 137. There we do have two wells, although only one is producing, and we believe that both wells, in the end, will have produced Strawn to drain that quarter section.

EXAMINER STOGNER: Mr. Kellahin, let me get your opinion on this. This is where I begin to start having a problem here, about we have unorthodox locations that have been approved for in a pool that had 600 barrels of oil per day as the limit. Now we're increasing that to 900 without telling some of the people that have been notified before or perhaps are affected, that being the royalty interest owners in this instance. Do you have any thoughts on that?

MR. KELLAHIN: I think 160-acre spacing is

appropriate in this pool because the conservation practice is to have the largest spacing pattern that is reasonably applicable, and we have wells that will do more than that. So I think the spacing is right.

The question is whether or not the location exceptions create an unfair opportunity for correlative-rights violation. We've chosen to do that on a case-by-case basis, which I think is the right way to do it. Each one is handled on its own merits. If, for example, there is an offsetting encroachment against other working interest owners or a different operator, they will get specific notice. If Conoco is the common operator of the two spacing units, then the working interest owners get the notice.

The Division has not seen fit, nor did the Commission see fit when we changed the notice rules, to require notice to the royalty and the overrides. The reason that was not done is that there's contractual obligations on the offsetting operator and working interest owners to protect their royalty owners. And it was not the Commission's notion that it was their obligation to protect those people beyond their contract rights.

So thus far we have not been required, nor has the Commission seen fit to impose the obligation to notify the royalties and the overrides. So that's not being done

by anyone. But we do do this on an individual well-by-well case to see if there's merits that deserve what occurs.

Conoco has its own economic interests at stake, and if there is drainage and correlative-rights violations occurring, they will need to protect themselves as well as their own contract obligations. So that's how the system has functioned for quite a number of years, Mr. Stogner.

EXAMINER STOGNER: Before coming to this hearing today I had some -- many other ideas on that. But with what I've heard in the circumstances out there, I've backed off of that. However, Conoco will be put on notice, and any subsequent operator, unorthodox locations are being requested, whether fee acreage, state acreage or federal acreage is put together -- I know that the notification under 1207.A (2) is a little bit vague. It was intended to say all mineral interest owners, but somehow that was not in there. Just be on notice, I will require that whenever an unorthodox location starts encroaching some other royalty interest, from here on out.

One other little quick question. What is the status on the SEMU proposed Well Number 154?

MR. KELLAHIN: Ms. Kay Maddox has Federal Expressed that application to me last week. I have it. As soon as the hearing is over I will finish reviewing it to make sure it's complete, and hopefully I can submit it to

you tomorrow. But she has delivered it to me, and once I get back to my office I can finish it and give it to you.

EXAMINER STOGNER: Okay. With that, I want to take the proposed unorthodox location request, 154, Conoco's pending horizontal request, I'm going to take administrative notice on those, and what I probably will do will include those approvals within an order that's issued here today on this matter. That way we can kill about three birds with one stone, or four in this instance. That's my proposal.

Also, I'll take administrative notice that when the rules were initiated in this pool, the statewide general rules had a different thinking. And also the references to the general rules, I'll need to double-check and make sure they're still applicable.

Mr. Kellahin, Rule Number 4 requires this 330-feet quarter-quarter section offset. Now, these sort of mirror what was thought about in that shallow gas in southeast New Mexico. Is that still necessary in this instance, for this pool?

MR. KELLAHIN: No, sir. In fact, in this pool back in 1999 we requested from Examiner Catanach that he relax the interior boundaries to ten feet, and he chose not to do that. And so you'll see in the order, that was denied.

But you see Mr. Huck's problem with the overlay. It's very difficult to locate wells in the spacing unit. So our preference would be to simply deal with these on a case-by-case basis. If you want to relax the interior setbacks, I don't think that's appropriate. We're trying to package this wellbore as an opportunity for shallower zones to avoid the dilemma that you see often with an NSL in a deeper location being used as an excuse in a shallower well.

So we've worked with these rules, they function effectively, and we'd like to sort of just leave those alone.

EXAMINER STOGNER: Well with that, thank you, Mr. O'Connor, you may be excused.

Does anybody else have anything further in Case 12,532 or Reopened Case 12,182?

Then this matter will be taken under advisement.

Mr. Kellahin, would you propose me a rough-draft proposed order --

MR. KELLAHIN: Yes, Mr. Examiner.

EXAMINER STOGNER: -- combining these two cases --

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: -- and also combining the two aforementioned -- You may not have one of them, so you can

leave that blank, but I'd like this as early as possible, if I could. So if it's somewhat incomplete, I can understand it.

What time, when do you think you might be able to have me something?

MR. KELLAHIN: Thanksgiving holiday is next week. The following week, whatever that is. Certainly before the next hearing.

EXAMINER STOGNER: Okay, so that would be before the 1st of December?

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: I would appreciate it, and I know Conoco would if you would get that out to me. Thank you.

With that, these matters will be taken under advisement.

(Thereupon, these proceedings were concluded at 10:25 a.m.)

* * *

I hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case Nos. 12182 and 12532 heard by me on 16 Nov 2000.

Examiner

Oil Conservation Division

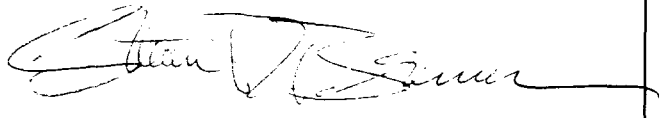
CERTIFICATE OF REPORTER

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 November 19th, 2000.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002