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. 12,533
APPLICATION OF DAVID H. ARRINGTON OIL AND GAS, INC., FOR COMPULSORY POOLING AND AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO	)	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

December 7th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, December 7th, 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.

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I N D E X

December 7th, 2000
Examiner Hearing
CASE NO. 12,533

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E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	6	16
Exhibit 2	7	16
Exhibit 3	7, 10	16
Exhibit 4	7, 11	16
Exhibit 5	12	16
Exhibit 6	17	18
Exhibit 7	17	18

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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 THE APPLICANT:

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 10:24 a.m.:

EXAMINER CATANACH: Okay, at this time we'll call Case 12,533, Application of David H. Arrington Oil and Gas, Inc., for compulsory pooling and an unorthodox gas well location, Eddy County, New Mexico.

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 Applicant, and I have one witness to be sworn.

EXAMINER CATANACH: Any additional appearances?

(Thereupon, the witness was sworn.)

MR. KELLAHIN: Mr. Examiner, the Applicant had sought compulsory pooling and an unorthodox well location by this Application. It is for the north half of Section 26. That north half of 26 is subdivided so the northwest quarter is controlled by Arrington, and the northeast quarter is controlled by Nearburg Exploration Company.

I was advised this morning that Nearburg has executed the appropriate contracts and joint operating agreements so that based upon that understanding, we would ask you to dismiss the compulsory pooling portion of the Application.

The unorthodox well location request is to be

presented to you. The well is unorthodox because it will be 40 feet to the west of the centerline of the north half of the section. So it's an interior encroachment on the 160-acre line.

We're going to demonstrate the necessity for that location with our geologic expert, Mr. Bill Baker.

And with your permission, we'll proceed.

EXAMINER CATANACH: You may do so.

BILL D. BAKER, JR.,

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

A. Bill Baker, and I'm exploration manager for David H. Arrington Oil and Gas in Midland.

Q. You're a geologist by profession, are you sir?

A. Yes, sir, I am.

Q. And on prior occasions you've testified before the Division and qualified as an expert in petroleum geology?

A. Yes, sir, I have.

Q. This is your prospect that we are discussing this morning?

A. Yes, sir, it is.

Q. And the displays that you're about to testify from are your work product, are they not?

A. Yes, sir, they are.

Q. Let's proceed, then, with looking at Exhibit Number 1. What does Exhibit Number 1 represent?

A. Exhibit Number 1 is just a land plat of the prospect outline, showing the north half of Section 26. It also represents the acreage that Nearburg and Arrington jointly have together.

Q. Based upon your geologic studies, do you now have an opinion as a geologist as to the appropriate location at which to place this well?

A. Yes, sir, I do.

MR. KELLAHIN: We tender Mr. Baker as an expert petroleum geologist.

EXAMINER CATANACH: Mr. Baker is so qualified.

Q. (By Mr. Kellahin) If you'll set aside Exhibit 1, Mr. Baker, as a locator map, I'm going to ask you to take a moment, and let's unfold Exhibit 2. We're going to look at Exhibit 3, and we'll look at Exhibit 4. So take a moment to organize those displays for me.

Before you describe these, Mr. Baker, let's identify for the record what each of these displays is. What's Exhibit 2?

A. Exhibit 2 is a structural cross-section, A-A', running from west to east, going through Yates Petroleum State well, Concho Resources Southern Cross "22" well, Mesa Petroleum Fourmile Federal Com well, and our proposed location.

Q. Identify for me what we're looking at when we discuss and describe in a few minutes Exhibit Number 3.

A. Okay, Exhibit Number 3 will be a structure map on the top of the Chester limestone. This is based on subsurface control. And the fault representation on the structure will be influenced by seismic that I will show in Exhibit 5 at a later time.

Q. Okay. Identify for the record what Exhibit 4 is.

A. Exhibit 4 is an isopach of the Morrow Clastics system. Basically, this is based on a gross interval of just the Morrow clastics, involving all Morrow clastic sands.

Q. Mr. Baker, if we're locating a Morrow test well in the north half of this section, what in your opinion is the best location at which to place that well?

A. Basically, it's going to be at the location of 2600 feet from the west line and 1980 from the north, which is located in a graben system, which I will identify and show based on the seismic and the subsurface well control.

Q. Is there any standard location in the spacing

unit that satisfies your geologic criteria for picking a well location?

A. No, sir, there is not.

Q. Is there a standard location that is better than the proposed unorthodox location?

A. No, sir, there's not.

Q. Describe for me what it is that causes you to have the opinion that this is the best possible location.

A. Well, it's going to be based on what Concho Resources did in their Southern Cross "22".

Q. In Section 22?

A. In Section 22.

Q. Let's look and see what they did.

A. Okay. Mr. Examiner, if you will look at Exhibit Number 2, our cross-section A-A', what I'm going to show you here is basically where the sand systems were encountered in the Concho Resources Southern Cross "22".

If you will notice on the far western side, Yates Petroleum drilled the State "HZ" Number 1. This well was a Morrow test, and it was drilled on the upthrown side of the fault block. As you can see between the Morrow and Chester sections, they did not encounter any Morrow clastic systems at all.

It was subsequently completed as a Cisco well. It's made just a little more than a BCF out of the Cisco,

but it was nonproductive in the Morrow section.

Concho Resources, in June of this year, moved over approximately 500 feet from this Yates Petroleum well and drilled in a graben system. If you'll notice on our cross-section, in drilling this graben system here they encountered 35 feet of Morrow clastic sands. They perforated the lowermost one, which is approximately 28 feet, and had 15 million a day out of this one.

This is what we are targeting in our proposed location, to drill a very similar graben system in an attempt to encounter a thick Morrow clastic system.

Q. Mr. Baker, how did you reach the opinion that there may be a similar graben system in Section 26 that Concho found in 22?

A. This was done through some proprietary seismic data that we have purchased, and I will show with an arbitrary seismic line, which will be Exhibit Number 5, the similarities between the Concho graben system and our proposed graben system.

Q. As part of your analysis, did you come to the geologic opinion that structure was of importance to you in locating this well?

A. Yes, sir, I think anytime that you can drill the most structurally advantageous system, it keeps you from having the possibilities of water.

Q. Let's look at Exhibit 3 and have you describe for me what your opinion is of the structural position of the reservoir in the north half of 26 and how it has affected you well location request.

A. Okay. Mr. Examiner, if you'll look at Exhibit Number 3, this is structure on the top of the Chester lime. And you can see for the most part that this is a north-south-trending structure, but it does have a very strong east-west nose that goes across Section 26.

You can see that our proposed location would be located in the most updip structural position on the top of the Chester lime within this graben system. You will note that is on the downthrown side of a fault right there, but it is in the most updip structural position.

Q. What happens to your well if you were to move it west to a standard location?

A. If I were to move it to a standard location, I would be on the upthrown side of the fault block, and I believe that I would encounter zero Morrow clastics, very similar to the Yates well on my cross-section, as well as the Mesa Petroleum well, which is located in the southeast quarter of Section 26.

Q. So you want to be east of the fault?

A. Correct.

Q. Why don't you go further east of the fault and

get yourself to a standard location in the easterly direction?

A. Well, within the graben system there is not a standard location down in there. Even if I move east, I'm still going to be unorthodox to that centerline, regardless. And I lose structural position dramatically, and I can show that on Exhibit 5 a little bit later, but we can lose up to 100, 150 feet of structure, by moving to the east.

Q. Let's have you turn to Exhibit 4 and identify and describe this display.

A. Okay, Exhibit Number 4 is an isopach of the Morrow clastics right here. And really, there's very limited well control out here, Mr. Examiner. If you'll notice, as on our cross-section, the Yates well had zero clastic sands in it, the Concho Resources well encountered 35 feet of productive Morrow clastics. The Mesa well, located in the southeast quarter of Section 26, once again had zero Morrow clastics. And then we are proposing that within the graben system, we will have a thick Morrow clastics.

Now, if you'll notice, there is no well control down in there. So it's speculation as to exactly how much Morrow sands you might encounter there. We're simply basing upon what Concho Resources encountered in their

graben system there, and we're estimating that we could encounter up to 20 feet at the proposed location.

Q. Let's turn to the illustration of the seismic analysis of the well proposal, Mr. Baker. If you'll turn to Exhibit 5, identify for us what it is we're looking at.

A. Okay, this is an arbitrary seismic line taken from our proprietary seismic database, and this pretty much emulates the cross-section, as best I could. And if you'll look on Exhibit 3, you'll see where this seismic line A-A' goes.

Q. Let's get oriented on Exhibit 5 as to what you're saying.

A. Okay.

Q. When I look at Exhibit 5 and I'm looking at the top header --

A. Yes, sir.

Q. -- it runs from left to right --

A. Okay.

Q. -- and I run from the left margin going to the right, and there's a vertical red line. What does that vertical red line through Exhibit 5 represent when I look over to Exhibit 3?

A. That is the Yates Petroleum "HZ" Number 1, that's the location for that Yates.

Q. All right. The next vertical red line to the

right represents what?

A. That's the Concho Southern Cross "22" Number 1.

Q. The data in between those two lines on Exhibit 5 --

A. Uh-huh.

Q. -- represents an orientation through the reservoir in what direction?

A. That's going to be in a northwest-southeast orientation. It kind of runs along strike on the upthrown side of the fault block --

Q. All right.

A. -- west of our proposed location.

Q. From the second vertical red line further right to the third vertical red line, you're changing orientation now and viewing the reservoir in a different direction?

A. Yes, sir. What I did is, I took it to the -- directly across from our location on the upthrown side of the fault block and then went due east to show the graben system and our proposed location for the Yellow Stonefly Number 1, "26" Number 1.

Q. Let's go back to Exhibit 5 and find the first vertical red line.

A. Uh-huh.

Q. Read down the vertical red line and find us the point vertically that's of importance to you.

A. Okay, if you'll look down there at about 1.4 seconds, you'll see a green line called the Chester. That is a Chester marker right there, seismic reflector. And you'll see at the Yates Number 1 well that it is situated on the upthrown fault block at about 1.4 seconds.

Q. If I'm at the intersection of the vertical red line with the horizontal green line in that wellbore and continue just to the right, there's a vertical black line.

A. Yes, sir.

Q. What does that represent?

A. That's the fault. That is a north-south trending fault that separates the Yates from the Southern Cross, Concho Southern Cross "22" Number 1.

Q. The Yates well was on the wrong side of the fault?

A. Yes, sir, they were, by 500 feet.

Q. All right. Move across the fault now --

A. Yes, sir.

Q. -- continue to the next vertical red line, which is the Concho well.

A. Yes, sir.

Q. What's occurred there?

A. Well, they've basically gone downthrown by about approximately 100 feet. And if you'll look at the difference between that green line and the lower Morrow

lime, which is located directly above it in red, you'll see how much thicker that is. Basically in that thick interval is where sand Morrow clastic systems were deposited.

Q. And your strategy is to identify and then penetrate a similar feature that you believe exists in the north half of 26?

A. Yes, sir, it is.

Q. All right, let's see how you illustrate this on that display.

A. Okay, if you just continue right on across --

Q. -- following the Chester green line?

A. -- following the Chester green line, you'll see once again that directly across from our location, that the Chester is approximately 1.4 to 1.5 seconds right there, and that our proposed location, you drop down to about 1.65, 1.6 to 1.65, you'll see there's a noticeable break right there, i.e, we drop down into another graben system very similar to what the Southern Cross well did.

And you'll notice if you continue further right, you'll come back up from it again, and it jumps up about 20 milliseconds on another fault block. So you see the definition of where the graben system is located.

You also see within the graben system how steep a dip there is on the top of the Chester lime. That's approximately 15 milliseconds, and at seven feet per

millisecond, you're looking at approximately 100 feet of structure.

Q. In conclusion, Mr. Baker, summarize for us your opinion.

A. Well, basically we believe that the best location to drill and test this Morrow system is at the given location of 2600 feet from the west and 1980 feet from the north line, and we hope to encounter approximately 20 feet of lower Morrow clastics in the most updip position within this graben.

MR. KELLAHIN: Mr. Examiner, that concludes my examination of Mr. Baker.

We move the introduction of his Exhibits 1 through 5.

EXAMINER CATANACH: Exhibits 1 through 5 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Baker, if you move that location further east, you might get a thicker section but you're going to lose structure; is that what you're testifying?

A. Yes, that is completely true, yes, sir.

Q. And are those faults that you show on Exhibit 4, are those sealing faults?

A. Yes, sir, we believe them to be sealing faults.

Q. Okay. Are there any horizons uphole that are potentially productive in this area?

A. Yes, sir, the Cisco limestone, given porosity development, is a potential target here.

Q. How about any shallow zones?

A. There are shallow zones out in this area, Mr. Catanach. At this proposed location I have no reason to believe that the Wolfcamp or the Abo or the Queen oil is prospective at this particular location, but there are other productive horizons within a 10- or 15-mile area.

Q. So you don't anticipate at this point that there will be any shallow well completions?

A. No, sir. No, sir.

Q. The reason being, you're going to be 40 feet off that --

A. Yes, sir.

Q. -- quarter-quarter section line with an offset operator that doesn't own an interest in the well.

A. Yes, sir.

EXAMINER CATANACH: Just want to make you aware of that. I'm sure you probably are.

I believe that's all I have, Mr. Kellahin.

MR. KELLAHIN: Mr. Examiner, Exhibit 6 is our certificate of notification to Nearburg, and Exhibit 7 is their waiver of objection to the well location.

And with the introduction of Exhibit 6 and 7, that concludes our presentation.

EXAMINER CATANACH: Okay, Exhibits 6 and 7 will be admitted as evidence.

There being nothing further, Case 12,533 will be taken under advisement.

(Thereupon, these proceedings were concluded at 10:38 a.m.)

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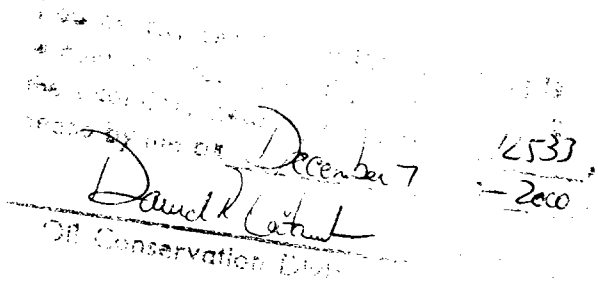


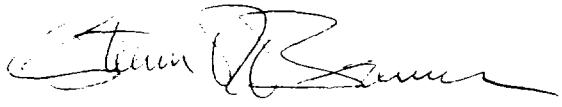
CERTIFICATE OF REPORTER

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 December 10th, 2000.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002