STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 9907, CASE 9911, CASE 9889,

CASE 9439, CASE 9912, CASE 9918,

CASE 9919

EXAMINER HEARING

CONTINUED AND DISMISSED CASES

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

April 18, 1990

I N D E X

* * *

WHEREUPON, the following proceedings were had at 8:20 a.m.:

EXAMINER STOGNER: This hearing will come to order for Docket Number 11-90. I'm Michael E. Stogner, appointed Hearing Officer for today, April 18, 1990.

I'll call first case, Number 9907, which is the Application of Enron Oil and Gas Company for compulsory pooling, Eddy County, New Mexico.

At the Applicant's request, this case will be continued and will need to be advertised for the hearing scheduled -- readvertised for the hearing scheduled for May 2nd, 1990.

* * *

WHEREUPON, the following proceedings were had at 10:24 a.m.:

EXAMINER STOGNER: Call Case Number 9911, which is the Application of Union Oil Company of California for a highly deviated directional drilling pilot project and an unorthodox coal gas well location, Rio Arriba County.

At the Applicant's request, this case will be continued to the Examiner's Hearing scheduled for May 2nd, 1990.

* * *

EXAMINER STOGNER: Call the next case, Number

9889, which is the Application of Meridian Oil, Incorporated, for temporary well testing allowable for certain wells in the Parkway-Delaware Pool, Eddy County, New Mexico.

At the Applicant's request, this case will be dismissed.

* * *

EXAMINER STOGNER: I'll call Case Number 9439, which is in the matter of said case being reopened pursuant to the provisions of Division Order Number R-8770, which order promulgated temporary special rules and regulations including 80-acre spacing for the Vada-Devonian Pool in Lea County, New Mexico.

I'm going to call for appearances at this time.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin and Aubrey. I'm appearing today on behalf of Union Pacific Resources Company, which was the original Applicant in the case that resulted in the order that established the special rules for the pool.

In addition, Mr. Examiner, I'm appearing today on behalf of Western Reserves Oil Company, Inc.

On behalf of those companies, I would request that this case be continued to the next regular

examiner docket.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

In that case, said case number 9439 will be continued to the Examiner's Hearing scheduled for May 2nd, 1990.

* * *

EXAMINER STOGNER: I'll call Case Number 9912, which is the Application of Conoco, Incorporated, for an unorthodox oil well location in Lea County, New Mexico.

The Applicant has requested that this case be continued to Examiner's Hearing scheduled for May 2nd, 1990.

* * *

WHEREUPON, the following proceedings were had at 2:41 p.m.:

EXAMINER STOGNER: I'll at this time call Case Number 9918, which is the Application of Mesa Operating Limited Partnership for compulsory pooling, San Juan County, New Mexico.

At the Applicant's request, this case will be continued to the Examiner's hearing scheduled for May 2nd, 1990.

* * *

EXAMINER STOGNER: Call Case Number 9919,

which is the Application of Mesa Operating Limited Partnership for another compulsory pooling, San Juan County, New Mexico.

The Applicant has also requested that this case be continued to the May 2nd, 1990, hearing.

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9912, heard by me on April 18 1990.

Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Shorthand 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 April 28, 1990.

STEVEN T. BRENNER
CSR No. 106

My commission expires: October 14, 1990

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 9912

EXAMINER HEARING

IN THE MATTER OF:

Application of Conoco, Inc., for an Unorthodox Oil Well Location, Lea County, New Mexico

TRANSCRIPT OF PROCEEDINGS

BEFORE: DAVID R. CATANACH, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

May 2, 1990

ORIGINAL

A P P E A R A N C E S

FOR THE APPLICANT:

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

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I N D E X

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E X H I B I T S

APPLICANT'S EXHIBITS:

* * *

WHEREUPON, the following proceedings were had at 9:35 a.m.:

EXAMINER CATANACH: Okay, at this time we'll call the hearing back to order and call Case 9912, the Application of Conoco, Inc., for an unorthodox oil well location, Lea County, New Mexico.

Are there appearances in this case?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin and Aubrey, appearing on behalf of the Applicant, Conoco, Inc., and I have two witnesses to be sworn.

EXAMINER CATANACH: Any other appearances?

Will the two witnesses please stand to be sworn in?

(Thereupon, the witnesses were sworn.)

JERRY HOOVER,

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

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Hoover, for the record would you please state your name and occupation?

A. I'm Jerry Hoover, I'm a senior reservoir engineer with Conoco.

Q. Mr. Hoover, on prior occasions have you

testified and qualified as an expert reservoir engineer before this Division?

A. Yes, I have.

Q. Pursuant to your employment with your company, have you made a study of the facts surrounding this Application?

A. Yes, I have.

MR. KELLAHIN: Mr. Examiner, we tender Mr. Hoover as an expert petroleum engineer.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Kellahin) Mr. Hoover, let me have you take what is marked as Exhibit Number 1, sir, and identify for us, first of all, the approximate location of the well that's the subject of this Application.

A. This proposed well is located in Section 35 of Township 16 South, Range 37 East. It is located in Unit E of that section.

Q. How is it identified on Exhibit Number 1?

A. It is indicated by the red arrow and the open circle.

Q. What is your company proposing to accomplish with this Application?

A. Conoco seeks the authority to drill its West Knowles Well Number 12 at an unorthodox location in the undesignated Shipp Strawn Pool.

Q. This is to be an oil well attempt in that pool?

A. That's correct.

Q. Describe for us the other pool in the area that's shown on Exhibit Number 1.

A. The Casey Strawn Pool is also shown here. You'll notice the proposed location for this well is outside and between the established boundaries for these two pools.

Q. Conoco has recently drilled another well in this vicinity that I believe is now dedicated to the Shipp Strawn Pool?

A. That's correct, 2600 feet to the southwest.

Q. In the south half of the southeast quarter of the section immediately to the west of this location?

A. That's correct.

Q. And prior to the drilling of that well, the Shipp Strawn Pool had not been extended into that section?

A. No, it had not.

Q. Why was that well put in the Shipp Strawn Pool as opposed to the Casey Strawn Pool, if you know?

A. No, I don't. That's just -- That's the pool the Commission decided to put it into.

Q. Is there any difference between the special

rules for each of those pools?

A. The special pool rules are identical and there's no dominant geological reason for going to one pool over the other.

Q. Both pools are dealing with the same vertical formation intervals?

A. That's correct.

Q. All right. What is your recommendation, Mr. Hoover, for which pool the current well ought to be placed in?

A. We would recommend that the Well Number 12 also be placed in the Shipp Strawn Pool, simply for convenience and lack of confusion. It would be simpler for these two wells to be in the same pool, both being West Knowles Wells.

Q. Why is that, sir?

A. Well, if you're looking for statistics or data or information in the pool for one of the wells, you would have both of the wells with a similar name. It just would be simpler.

Q. Do you have similar interest owners for each of the ownerships for these spacing units?

A. Yes, they're common.

Q. When we look at the special rules for the -- both the Casey Strawn and the Shipp Strawn, what do

they require in terms of acreage dedication and well locations?

A. They require an 80-acre proration unit, and it can either be a standup or a laydown unit.

Q. What's your recommendation to the Examiner for the orientation of the spacing unit?

A. We're recommending a laydown unit in the south half of that northwest quarter.

Q. And what is the basis for that recommendation?

A. That would be a geologic basis which will be discussed and become apparent when the next witness discusses the geological interpretation.

Q. Okay. When we look at the choices of a standard location within the south half of the northwest quarter of the section, are there any alternative choices that satisfy the topographic constraints that would apply to the spacing unit?

A. Well, of course the rules allow for a radius of standard area of 150 feet in either quarter quarter, the 80-acre. So techically there is another standard location. That too would be a geological determination.

Q. Let's turn to Exhibit Number 2, Mr. Hoover. Would you identify and describe that for us?

A. Exhibit 2 is a well location acreage dedication plat for the proposed well.

Q. What does that show?

A. It shows outlined in red the proposed proration unit, the laydown unit, the 80 acres.

It shows also, indicated by the small open circle, the proposed location, which would be 2310 feet from the north line, 660 feet from the west line.

Q. Are there any surface constraints or topographical problems with regards to locating the well in the spacing unit?

A. You will notice on this exhibit that there is already an existing well at the center of that quarter quarter, Well Number 9, indicated by the solid dot.

There also is a battery pad and -- extending to the south of that location. And also there is a road crossing south of that well, which necessitated moving away from the -- at least the center center location.

For geological reasons that will become apparent with the remaining exhibits, we did not want to move north with this location.

Q. Describe the magnitude that this well is unorthodox from the closest standard location.

A. This location is 184 feet south of that 150-

foot radius around the center of the quarter quarter.

Q. Okay. Turn now, sir, to Exhibit Number 3. Would you identify and describe that display?

A. Exhibit 3 is an area map showing the offsetting tracts and operators to our proposed well. You'll note that Conoco operates all of the acreage surrounding this location except for the 160-acre tract operated by Amerind to the southeast.

Q. The operators or working-interest owners, other than Conoco, towards whom this well is moving in an unorthodox direction are limited to Amerind?

A. To Amerind, that's correct.

Q. Have you notified Amerind of your Application and determined whether or not they have any objection to your request?

A. Yes, we have. If you'll refer to Exhibit 4, this is a copy of the certified mail receipt showing that Amerind was sent and received a copy of our Application. Verbal communication with them has brought no objection from them.

Q. Can you determine for us, Mr. Hoover, when you first sent this -- or mailed the Application to Amerind?

It shows a delivery date on the return receipt card. I was curious as to what was the

original date of your Application. Do you recall?

A. I don't have that with me right at this point. But it --

SECOND WITNESS: It says March 28th.

THE WITNESS: That's the receipt date.

MR. KELLAHIN: We'll provide that to you, Mr. Examiner. The witness doesn't have that readily available to him.

Q. (By Mr. Kellahin) All right, does that conclude your presentation, Mr. Hoover?

A. Yes, I believe that will conclude it.

MR. KELLAHIN: All right, Mr. Examiner, we move the introduction of Conoco's Exhibits 1 through 4 at this time.

EXAMINER CATANACH: Exhibits 1 through 4 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr.Hoover, within that particular quarter quarter section that the well is going to be located, there are some topographical obstructions that caused you to move south, or are they mainly geologic?

A. The primary and the most critical reason is geologic.

I simply stated there are some topographical

reasons, if we go south, for moving some distance from the center. But the overriding reason will be geological.

Q. Within Amerind's acreage to the southeast of your proposed location, I show two dry holes.

A. That's correct.

Q. Do you know if those were drilled to and tested in the Strawn in this area?

A. Yes, they were. They were dry holes in the Strawn.

Q. They were dry holes.

A. You'll see how these fit on the structure with the next exhibits.

EXAMINER CATANACH: Okay, no further questions.

MR. KELLAHIN: Mr. Examiner, during your discussions with Mr. Hoover we have located, and I have marked now as Conoco Exhibit Number 7, a copy of the original Application, dated March 23rd, and this was the Application a copy of which was sent to Amerind on that date, and we would move its introduction at this time.

EXAMINER CATANACH: Exhibit Number 7 will be admitted as evidence.

MR. KELLAHIN: I'd like to call our next

witness at this time, Mr. Hans Sheline, S-h-e-l-i-n-e, I believe.

HANS SHELINE,

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

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Sheline, for the record would you please state your name and occupation?

A. Hans Sheline. I'm a senior geophysicist with Conoco in Hobbs, New Mexico.

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

A. Yes, I have.

Q. Pursuant to your employment by your company, have you made a geologic study of this particular well location?

A. Yes.

Q. And based upon that study do you have recommendations to your company as well as to the Division about the optimum location in which to place this well for the spacing unit?

A. Yes, I do.

MR. KELLAHIN: We tender Mr. Sheline as an expert geophycist.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Kellahin) Sir, let me have you turn to what is marked as Exhibit Number 5. Could you identify this for us?

A. This is a structure map on the top of the Strawn Formation.

Q. How was it prepared?

A. This was prepared using seismic data and offset well data.

Q. Is this a document that you prepared yourself?

A. Yes.

Q. Describe for us the method that you went through in order to satisfy yourself that you had an adequate structure map prepared for the Shipp Strawn upon which then to determine a well location.

A. Okay. Before I get into that, let me clear the Exhibit Number 5 so that --

First of all, this is the structure map on the Strawn.

The hexagons on this map show the producing Strawn locations, and the dryhole symbols are shown in color.

What was used, as I mentioned earlier was the -- Obviously the well data and seismic data were

synthesized to produce, number one, a structure map on the top of the Strawn, and then seismic data also gives information as to the thickness of the Strawn interval.

And you can see on this map the proposed location is shown by the red arrow and the open circle, and it corresponds to the center of a structural nose. And as you can see, to the northwest you have a very similar structural nose which has produced very well from the Strawn Formation.

You can see there's a correspondence between the thick Strawn and the good production, and that thickness is demonstrated by these structural noses that generally tend to the east northeast.

Q. In reviewing the seismic information that was made available to you, how did you satisfy yourself that your interpretation of that information was confirmed by the log information and other geologic data derived from the wells shown on the display?

A. Well, as you can see, again looking to the northwest, you see a correspondence between the center of these -- this nose -- and the best producers.

Likewise, if you were off on the flank of these structural noses, you will notice that you have very little porosity and that it's a noncommercial or a dry hole.

Therefore it's critical to best position your well in order to hit as best you can the center of these reservoirs. And if you are not able to do that, you dramatically increase your risk of a noncommercial well.

Q. When we look specifically at the spacing unit proposed, which is the south half of the northwest quarter of 35, within that spacing unit there are certain standard well locations, are there not?

A. Correct.

Q. Do any of those standard locations give you the opportunity that you will obtain for a well in the Shipp Strawn if you use the unorthodox location?

A. No, as you can see, either going downdip to the due east -- You're going significantly downdip and off the center of that nose.

And likewise, if you were to go to the standard location either in that quarter quarter or going up to the north, you can see to the north there's a dry hole already in that northwest of the northwest.

And likewise, if you were to go to standard, you're going again on the flank of the structure.

So it is critical to, as I mentioned earlier, to be in the center of that structure as much as possible.

Q. Can you give us an example using this display of how critical it is to you to get the highest point of the structure of these --

A. Yes, in fact there's an excellent example in the southeast of Section 34.

There is the West Knowles Number 1 and the Number 11, which are located both in unit letter P. The Number 1 well encountered essentially no porosity. The Number 11 well encountered over 90 feet of porosity.

So you can see in just less than 1000 feet distance, you can have a dramatic impact in the porosity encountered.

Q. The Number 1 Well in the southeast of 34 that shows a minus 7577?

A. That's correct.

Q. And the one that just touched the inside of the high point of the structure to the east, that was at a minus 7531?

A. That's correct.

So in addition to the dramatic increase in the porosity in less than 1000 feet horizontal -- in fact in this case I believe it was closer to 600 feet -- you can not only get the 90 feet of additional porosity, but you're going updip significantly in what

is normally a downdip direction, namely to the east.

Q. I direct your attention, sir, to Exhibit Number 6. Would you identify and describe that display?

A. Exhibit Number 6 is also showing the Strawn structure, and it's also showing the producing in the dry holes in the Strawn, but as well it's locating the seismic coverage which Conoco has access to in this area. And the point of this being that we have at least ten lines which would impact the -- ten seismic lines which would impact our interpretation of the structure in this area.

And therefore, with this fairly large amount of control, we have enough control to have a degree of confidence as to where to locate this well.

Q. Exhibit Number 6 also represents your work product?

A. That's correct.

Q. And these form the basis upon which you have reached your conclusion about the optimum location for this well?

A. That's correct.

Q. And that conclusion is, the unorthodox location is necessary?

A. Yes, it's essential to reduce the risk in

this well.

MR. KELLAHIN: That concludes my examination. We move the introduction of Exhibits 5 and 6.

EXAMINER CATANACH: Exhibits 5 and 6 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Sheline, with the aid of seismic information, are you confident that you're able to map these structures as close as you've shown them here?

A. What we can say is that the seismic data gives us a fairly accurate picture of the structure within, say, a hundred feet -- at least a hundred feet, perhaps, as some people would say, better than a hundred feet.

We can also say that we can look at the overall thickness of the Strawn, and that's also determined to be important in terms of the producibility of the formation.

Q. And I believe you testified that it's imperative that you locate the well as close to the center of the structure as you can, and that's what you've attempted to do with this location?

A. That's correct. We felt like that -- Of course, normally in a 40-acre unit this would be a

standard location. But with the 80-acre special pool rules, it requires the 150 as -- from the center center -- as the standard location. So whereas this would be a normal location, in this case it's an unorthodox location.

I should point out one additional factor, and that is that the normal tendency in drilling a well in this area is to deviate to the north. And given that normal tendency, it's additionally important in this well that we go as far south as possible.

Q. Do you have any idea how much these wells drift?

A. Yes, they can drift. In the case of the Number 1 where we had a dipmeter, we verified at least 500 feet of drift to the north.

Q. Now, that was -- Did you actually run a directional survey on that well?

A. On the Number 1, there was not a directional survey run, but there was a dipmeter log, which can give you that information.

On the Number 11, there were several directional surveys run, and it also tended to drift significantly to the north. In the case of the Number 11, it was not allowed to continue to drift. It starts drifting at about the Drinkard depth, and then it kicks

off fairly rapidly.

After, I believe it was only 200 feet of drift, it was corrected back to within a 200-foot radius of the surface location.

Q. Does Conoco operate the east half of Section 34?

A. Yes.

Q. Those are all Conoco wells?

A. That's correct.

Q. Did you see a big difference in the porosity between -- I'm looking at the wells in the northeast quarter --

A. Uh-huh.

Q. -- between the 4 and the 8?

A. Yes, there's quite a bit of difference in there. It turns out in that particular case, as I recall, the 8 actually had slightly higher porosity in terms of net footage, but the 4 was located in a better structural position and therefore produced -- I believe the last number I had on it was 762,000 barrels of oil from the Number 4. That's the best producer in this area.

Q. As compared with the Number 8, which --

A. I believe that was in the 300,000 to 400,000 range.

Q. Did Conoco use seismic data in the east half of 34 to drill their wells in that area?

A. No, Conoco did not drill those wells. Those were originally drilled by Mesa Petroleum. Conoco acquired this acreage from Mesa.

Q. This is Conoco's first attempt to drill a Strawn well in this area?

A. It's the second attempt. The first was the 11 that encountered the 90 feet of porosity.

Q. Did Conoco use seismic on that well?

A. That's correct. That's the well that's 600 feet east of the Number 1. That encountered no porosity.

Q. Is the 11 a pretty good well?

A. It started out at, I believe it was 301 barrels of oil a day. It's since come down. I'm not sure what the current rate is now.

Q. In terms of the possible reserves underneath the proposed location, do you think they're mostly limited to the proration unit?

A. I would say the probable answer is yes. It's difficult to really know exactly what the porosity is doing until you get down there, and this is essentially an untested pool, so it would be important to see what kind of porosity is encountered.

EXAMINER CATANACH: I believe that's all the questions I have of the witness. You may be excused.

Is there anything further in this case?

MR. KELLAHIN: No, sir.

EXAMINER CATANACH: Case 9912 will therefore be taken under advisement.

(Thereupon, these proceedings were concluded at 10:00 a.m.)

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Shorthand 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 May 10, 1990.

STEVEN T. BRENNER
CSR No. 106

My commission expires: October 14, 1990

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9962, heard by me on May 2 1990.

David R. Catanach, Examiner
Oil Conservation Division