NEW MEXICO OIL CONSERVATION DIVISION

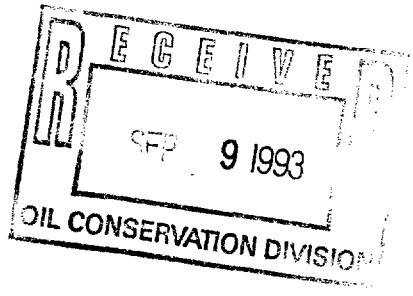
STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10802

IN THE MATTER OF:

The Application of Phillips Petroleum Company for unorthodox oil well location, Eddy County, New Mexico



BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

August 26, 1993

ORIGINAL

REPORTED BY:

SUSAN B. SPERRY
Certified Court Reporter
for the State of New Mexico

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.
General Counsel
State Land Office Building
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

FOR THE APPLICANT:

KELLAHIN AND KELLAHIN
P. O. Box 2265
Santa Fe, New Mexico 87504
BY: W. Thomas Kellahin, Esq.

I N D E X

E X H I B I T S

EXAMINER STOGNER: I call this hearing to order for Docket No. 25-93. I'm Michael Stogner, hearing examiner for today's cases. Please note today's date, August 26, 1993.

First matter we'll call today will be case No. 10802.

MR. STOVALL: Application of Phillips Petroleum Company for an unorthodox oil well location, Eddy County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of the applicant, and I have one witness to be sworn.

EXAMINER STOGNER: Are there any other appearances? Will the witness please stand to be sworn?

JACK PICKETT

After having been first duly sworn under oath, was questioned and testified as follows:

EXAMINER STOGNER: Mr. Kellahin?

EXAMINATION

BY MR. KELLAHIN:

Q. All right. Sir, would you please state your name and occupation?

A. Jack Pickett, and I'm reservoir engineering

supervisor for Phillips Petroleum.

Q. Mr. Pickett, would you describe for us when and where you obtained your degree?

A. I received a bachelor of science degree from Mississippi State in petroleum engineering from Mississippi State University in 1978.

Q. Do you hold any other degrees in engineering?

A. No.

Q. Subsequent to obtaining your degree, summarize for us your employment experience as a petroleum engineer.

A. I've worked the last 15 years for Phillips in various engineering functions in production, reservoir drilling and process engineering. For the last five years, I've been the reservoir engineering supervisor for Phillips as Permian Basin region, in Odessa, Texas, which includes southeast New Mexico.

Q. Do you have reservoir engineering or petroleum engineering duties with regards to the subject well which is the James "E" Federal Well No. 8 that was drilled in the Cabin Lake-Delaware Pool of Eddy County, New Mexico?

A. Yes.

MR. KELLAHIN: We tender Mr. Pickett as a an expert petroleum engineer, Mr. Stogner.

MR. STOGNER: Mr. Pickett is so qualified.

Q. (By Mr. Kellahin) Mr. Pickett, let me direct

your attention, sir, to what is marked as Exhibit No. 1. Identify for us the plat.

A. This is a base map of Phillips's acreage in the Cabin Lake Field. The acreage colored in yellow in Section 11, which is Township 22 South, Range 30 East, and the acreage in yellow in Section 12 is Phillips's James "E" Lease, which we own 100 percent working interest in that acreage.

Q. When we look at Section 11, and look at the ownership in Section 11, is the royalty, any overrides and the working interest ownership all common with regards to that section?

A. Yes.

Q. Describe for us, before we look in detail at your displays, what is the problem that's brought you before the Examiner today?

A. Basically, Phillips made a mistake in targeting the directional drilling of the James "E" 8 well. And we encountered the top of the Delaware pay outside an orthodox location.

Q. When you were targeting for Delaware pay, the members of the Delaware formation, the Bell Canyon, Cherry Canyon and Brushy Canyon, what was the principal target involved for potential production?

A. The principal target was the Cherry Canyon sand,

and with the minor target of the Brushy Canyon. The top of the Cherry Canyon is the top of the, of the highest known pay in the Cabin Lake-Delaware Field.

Q. What is the spacing for wells drilled in this pool, Mr. Pickett?

A. State-wide rule is 40 acres.

Q. And where would a standard well be located from the site boundaries of a 40-acre tract for this pool?

A. Greater than 330 feet from the sides of the units.

Q. You have to at least be 330 or greater from the side boundaries?

A. Yes.

Q. When you look at the actual portion of the wellbore that's intended to be producing, identify for the Examiner what portion is standard, and what portion is unorthodox.

A. Okay. As measured depth in the well, the Cherry Canyon sand will be outside the orthodox location. The Brushy Canyon sands would be orthodox.

Q. Approximately how far is the unorthodox encroachment at its greatest extent within the Cherry Canyon pay of the pool?

A. By 32 feet, we missed. The top of the sand is found 298 feet from the proration unit line, so we missed

it by 32 feet.

Q. All right. Let's look specifically, then, at the information contained on Exhibit No. 1. Have you indicated to the Examiner the footage locations for some of the information?

A. Yes. You'll find the surface location for the James "E" 8, which is noted at the bottom of the map, 1558 from the east line of Section 11, 2247 from the south line of Section 11, which is in Unit J, and the bottom hole location is found at 590 feet, 599 feet from the east line, 1782 from the south line of Section 11 in Unit I.

Q. The bottom hole location is in what formation?

A. Within the Delaware sand.

Q. All right. You're in the base of the Brushy Canyon, or in the Brushy Canyon interval of the pool?

A. Yes, in the base of the Brushy Canyon.

Q. All right. Let me have you turn to Exhibit 2. Identify and describe that exhibit.

A. This is Administrative Order DD-76, which authorized Phillips to directionally drill the James "E" Well No. 8 from the surface location in Unit J to a regular location in Unit I.

Q. Identify for us Exhibit No. 3.

A. This is a porosity log from the James "E" Well No. 8. And what I'd like to show with this is the top of

the Cherry Canyon pay zone, which is the uppermost pay in the Delaware sand in the Cabin Lake Field, at 5768 feet, and this would be the top perforation in the well.

Q. That's a measured depth?

A. Yes, that's a measured depth.

Q. What is the status of the well at this point, Mr. Pickett?

A. The well's been drilled, cased, and we're going to, Phillips will commence completing in the Brushy Canyon probably next week, which is orthodox.

Q. Let's look at what is marked as Exhibit 4. Would you identify that for us?

A. This is the directional drilling survey from James "E" No. 8 well.

Q. Take us to that portion of the directional drilling survey that shows us the information with regards to the determination that the Cherry Canyon was outside of the standard well locations for production?

A. Okay. Turn to the third page of that exhibit, which, at the upper right-hand corner, it says, Page 2 of 3?

Q. There's a handwritten entry on the left margin, that directs the reader's attention down to a measured depth footage of 5744?

A. Yes.

Q. Okay. Describe for us what you're trying to indicate?

A. This left-hand column is a measured depth of the directional survey. We had two points taken bracketing the top of the Cherry Canyon sand at the top, one at 5744, the other at 5806. The top of the Cherry Canyon sand, or Phillips top perforation plan for this well falls 39 percent of the way down from there.

If you then go over to the sixth column over, which locates the well in the east/west location from the surface location of the well, a positive number being east, and interpolate between those, you find that the wellbore intersected the top of the Cherry Canyon sand 536 feet east of the surface location.

Also, you'll note that we intersect a point 568 feet east of the surface location, going back over at a measured depth of 5930 feet. And, it's at that point, 560 feet east of the surface location, that the wellbore is orthodox.

So, between those two points, at 5768 measured depth, to 5930, that we would plan perforations within that interval, but they would be unorthodox.

Q. Have you taken this information, Mr. Pickett, and prepared an illustration that demonstrates the location of the wellbore in relation to its side

boundaries?

A. Yes. If you look at the last exhibit, the one with the blue coloring on it, Exhibit No. 5?

Q. Describe for us the illustration.

A. This is a well deviation diagram. It's an east-to-west cross-section through units Unit J and Unit I. On the right-hand side, you'll see the east line of Unit I noted, which is also the east line of Section 11. On the left-hand side, you'll see the west line of Unit I noted.

And then, on each side of that 330 foot, setbacks are marked, so everything that's orthodox is within those 330-foot setbacks, and shaded in light blue. You'll notice the surface location, which previously shown was 1558 from the east line, so that makes it 238 feet west of the western boundary of Unit I.

Q. When you look at that part of the diagram that shows the top of the Cherry Canyon at 5768 feet measured depth, from that point down to 5930, is that portion of the wellbore that you seek approval for being unorthodox in the pool?

A. Yes.

Q. And then below the 5930, all the remaining portion of potential production within that wellbore would be at a standard location in the pool?

A. That's right.

Q. All right. Describe for us how the error occurred in placing a portion of the producing interval outside of the standard drilling setback.

A. Basically, the geologist that was responsible for targeting the location was unfamiliar with the rule that all the perforations have to be orthodox.

They just assumed that if the bottom hole location was orthodox, the whole thing was orthodox, but that was incorrect.

MR. KELLAHIN: That concludes my examination of this witness. We move the introduction of his Exhibits 1 through 5.

EXAMINER STOGNER: Exhibits 1 through 5 will be admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Pickett, you referred to Exhibit No. 3. What is the perforated interval? I understand the top of the perforation is 5768. What is the perforated interval through the Cherry Canyon?

A. From 5768 to approximately 5820.

MR. KELLAHIN: Those are the planned perforations?

THE WITNESS: The planned perforations of

the Cherry Canyon interval.

MR. KELLAHIN: You've not yet perforated that interval, have you?

THE WITNESS: That's right. And this would be the only perforations.

Q. (By Examiner Stogner) So, you do not plan to perforate the Brushy Canyon at this time?

A. Only at an orthodox location below 5930.

Q. What is that planned perforated interval?

A. From approximately 7200 to 7350.

EXAMINATION

BY MR. STOVALL:

Q. I had a question on Exhibit 4, for explanation, if you'd look at the last page of it? Appears to be your deviation, and I didn't -- I'm assuming that the last two pages are deviations you look at from two different planes; is that correct?

A. That's right.

Q. And the vertical axis is the surface location at your starting point?

A. Yes.

Q. What's the shaded circle area, is that -- why don't you tell me what that is? See what I'm talking about? You've got a circle drawn on the last page?

A. Oh, okay. Yes. That's the bottom hole target

location.

Q. Okay.

A. And the shaded portion was their optimum location.

Q. Oh, okay.

EXAMINER STOGNER: What can you say? A mistake was made. I have no other questions.

MR. KELLAHIN: That completes our presentation.

EXAMINER STOGNER: If there's nothing else further in case No. 10802, this case will be taken under advisement.

(And the proceedings concluded.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10802, heard by me on 26 August 1993.

Oil Conservation Division, Examiner

CERTIFICATE OF REPORTER

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

I, Susan B. Sperry, 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 caused my notes to be transcribed under my personal supervision; 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 September 2nd, 1993.

Susan B. Sperry

SUSAN B. SPERRY, RPR, CM
CCR No. 156