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. 10,853

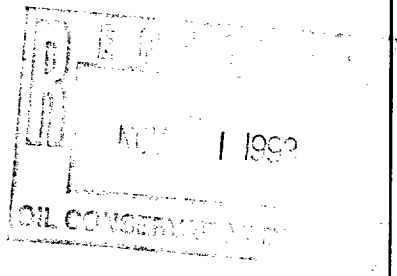
Application of Matador Petroleum Corporation

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: Michael E. Stogner, Hearing Examiner



October 21, 1993

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, October 21, 1993, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

October 21, 1993
Examiner Hearing
CASE NO. 10,853

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E X H I B I T S

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A P P E A R A N C E S

FOR THE APPLICANT:

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* * *

WHEREUPON, the following proceedings were had at 8:54 a.m.:

EXAMINER STOGNER: I'll call the next case, Number 10,853, which is the Application of Matador Petroleum Corporation for an unorthodox gas well location, Chaves County, New Mexico.

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 the Applicant, and I have one witness to be sworn.

EXAMINER STOGNER: Are there any other appearances in this matter?

(Thereupon, the witness was sworn.)

EXAMINER STOGNER: You may be seated.

Mr. Kellahin?

Before we get started, Mr. Kellahin, I received a phone call yesterday, and I think the man's name was Dave Stout -- I'm not sure on that -- with the BLM in Roswell, asking about the unorthodox gas well location, and I understand there may be a possible relocation.

Were you made aware of that?

MR. KELLAHIN: Yes, Mr. Examiner, that's --

EXAMINER STOGNER: We will cover it?

MR. KELLAHIN: Yes, sir, we will.

EXAMINER STOGNER: Thank you.

MR. KELLAHIN: By way of background, Mr. Examiner, Matador has an acreage position in a Morrow play in Chaves County, New Mexico. It is looking to offset its other spacing units with the north-half spacing unit for this well, which they originally proposed to drill 660 out of the north and east corner of Section 30.

An examination of the topographical information and our preliminary belief was that that location was approvable by the BLM.

It is the optimum location, geologically, in an attempt to locate the thickest point in a Morrow channel that runs north-south. So moving east in the north half is preferable geologically.

The field inspections and conclusions by the BLM, confirmed by a letter to us yesterday, was that they desire us to move 200 feet to the west of the current location.

While that is not our preferable geologic location, it is still an acceptable choice for Mr. Townsend, who is the witness and the exploration geologist that's done the work, and so his presentation will be pointed to the fact that he will like your permission to go to a less unorthodox location than advertised.

His amended plan, based upon the BLM's request, is that he will be 660 from the north line and 860 from the

east line of that section.

So that's where we're headed.

EXAMINER STOGNER: So your requested location, or change is 660 from the north, 860 from the east?

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: Moving to the west to a less unorthodox location.

With that, such change would not necessitate a readvertisement or a redocketing of this particular Application, so we can move at this time.

MR. KELLAHIN: Yes, sir, that's our understanding.

EXAMINER STOGNER: Okay.

ROGER TOWNSEND,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Could you please state your name and occupation?

A. My name is Roger Townsend. I'm the chief geologist with Matador Petroleum Corporation.

Q. Mr. Townsend, on prior occasions have you testified before the Division as a petroleum geologist?

A. No, I have not.

Q. Summarize for us your education.

A. I got a bachelor's degree in geology from the University of Southern Mississippi in 1983. I then got a master's degree in geology from Northeast Louisiana University in 1986.

Q. Summarize for us your employment experience as a petroleum geologist.

A. I started work with TXO Production as a geologist in June of 1985 and -- working the Permian Basin.

And then in June of 1990 I worked at Sage Energy, again working the Permian Basin as a geologist.

And in January of 1992 I began with Matador Petroleum, working the Permian Basin as a geologist.

Q. Is the Application proposed by your company based upon geologic work and interpretations that you have made?

A. Yes, sir, it is.

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

EXAMINER STOGNER: Mr. Townsend is so qualified.

Q. (By Mr. Kellahin) Mr. Townsend, let me direct your attention, sir, to Exhibit Number 1, have you identify that for me, please.

A. Yes, sir. Exhibit Number 1 is a production map of the Morrow production in the field around where we're intending to drill.

Q. You know this to be the Diamond Mound area?

A. Yes, I do.

Q. When we're looking at the Morrow production in this area, is there a particular portion of the Morrow that is productive in these wells?

A. Yes, sir, the most productive zone in the Morrow in this area is the interval between the Middle Morrow down to the top of the Chester, normally called the Lower Morrow zone.

Q. All the Morrow gas wells shown on the display with the red dot, are those wells capable of lower Morrow gas production?

A. Yes, sir, they are.

Q. On this display, Mr. Townsend, looking at the proposed spacing unit -- which is the north half of Section 30 South, is it?

A. That's correct.

Q. -- there is an area shaded or stippled in which it includes the north half of 30 and other adjoining spacing units.

What is your understanding of the purpose of that area contained within the stippled outline?

A. I understand that that area is the area that Matador has an interest and intends to further develop this productive trend.

Q. With this interest position in here, describe for

us the geologic setting for Lower Morrow production as you have interpreted it.

A. The Lower Morrow in this area ia a distributory channel system and a delta depositional environment where the distributory channels trend roughly north-south and are deposited in a fingering or lenticular manner.

Q. As a result of the deposition of the Morrow channel in this area, is it possible for you as an exploration geologist to provide for the four spacing units that are contained within the stippled area, well locations for each of those spacing units by which the wells would be located at standard locations?

A. No, sir, geologically if I had to drill wells at standard locations, we would not be able to drill them due to the risk involved.

Q. Let's turn now to Exhibit Number 2. Identify that for me.

A. Exhibit Number 2 is a net Morrow sand isopach, and it's an isopach mapped on the net sand with an eight-percent porosity cutoff within a 50-API gamma ray cutoff.

Q. Again, this is your work?

A. Yes, sir.

Q. Let's find the north half of Section 30, the spacing unit. You have an open circle at the approximation of the original unorthodox location, 660 out of the north

and east sides of the spacing unit?

A. Yes, sir.

Q. Do you see that?

A. Yes, sir.

Q. It's just above the "t" in "et al.", out of "Central Resources, et al." Do you see that?

A. Yes, sir.

Q. And then just to the west of that, along the 20-foot contour line, there's a red dot. What does that represent?

A. That red dot represents moving 200 feet west from the 660 from the east line. Now the red dot is 860 from the east line.

Q. Summarize for us the conclusion from the display, Mr. Townsend.

A. Okay. In a summary, what I've done here is, I've taken the Lower Morrow sand trend and given it a 50-API gamma ray cutoff in order to find the general trend of the sand.

And then within that 50-API cutoff, I identified the eight-percent porosity cutoff for the pay sand. And in doing that, I came up with this net sand map which should most readily represent the net pay in the Morrow interval.

But I did have to add up lenticular zones, sand packages, rather than a single individual sand for every

well.

Q. When we look at the net pay map, then, we are not looking at a single individual sand member but a multitude of sand members?

A. Yes, sir, that's correct.

Q. Describe for us what has caused you to want to move to the east side of the spacing unit, rather than be at the closest standard location, which would be 1980 from the east end of that spacing unit.

A. Yes, sir. Whenever I mapped this sand, I could see that to the north there's a good thick sand with good production.

And then down in Section 30 I've got a very thin sand, only four feet thick, that has pretty good production and appears to be in communication with a better, thicker, reservoir.

And then south of there in Section 31, the southeast quarter, there's another well with 14 feet with good sand.

And in mapping this sand, it appears, the way I've interpreted it, that the sand trend, the thicker sand trend, is located on the east side of Section 30 and west side of Section 29 trending roughly north-south.

If I were to put my location at a standard location in Section 30, I would either be 1980 from the

east line or 1980 from the west line. And in both cases, I believe that I would be in a very thin or -- well, a very thin sand that would increase my risk of not having an economic well.

Q. What is your conclusion, then, based upon this display, as where to locate the well?

A. My conclusion is that the locations 660 from the north and 660 from the east would be the best location to drill, and moving 200 feet further west is acceptable.

Q. Okay. Let's go to the cross-section so that we can see the interfingering of the different sand members within the channel. I believe you've marked your exhibits such that --

A. Yes, that would be exhibit 3. It's the A-A' cross-section to the north.

Q. All right, sir, let's take a moment and unfold that.

For reference, show us on the cross-section, Exhibit 3, the vertical interval that was isopach'd in Exhibit 2.

A. Okay, the vertical interval was the net sand between the Middle Morrow marker and the bop of the Barnett Shale, and they are colored in red.

Q. You then applied a gamma ray cutoff and a porosity cutoff and --

A. Yes, sir, on --

Q. -- came to a net value to use for the isopach?

A. Yes, sir, I did.

Q. Okay. Show us the interpretation as you illustrate and describe these three wells.

A. Okay, these three wells go across the top half of Section 19 into the northwest quarter of Section 20. And in this cross-section you can see the well to the left, the first well at A, had a sand in the very lowermost part of the Middle Morrow.

And then as you move to the well in the center of the cross-section, you have that sand as well as two or three other sands above it.

And then when you move further to the east, to the A' side of the cross-section, you have -- we have lost the lower sand and gained other sands up above it, indicating a very lenticular interfingering of sands as you move from the west to the east, and also a thickening of the net sand as you move from the west to the east.

Q. In finding well locations for developing this four-spacing-unit area, what is your strategy, then?

A. My strategy is to take these gamma ray cutoffs and net porosity cutoffs and add up the thicknesses and try to find the area where I will get the greatest thickness of porous sand.

Q. Let's go to Exhibit 4, which is your east-west cross-section on the southern side of your project area.

What's the conclusion from Exhibit 4?

A. The conclusion from Exhibit 4 indicates the same thing that we saw in Exhibit 3. Again, there are interfingering sands that are discontinuous from the west to the east, but in a general sense thickening to the east.

And I would note on the last well, the one on the right-hand side, that my gross interval has thinned drastically, indicating that if I moved further east I'm close to the pinchout of the entire trend.

Q. How does this information help you decide where to put your well locations for this spacing unit, as well as to begin to plan where to locate the other three spacing units' wells?

A. Okay, the -- What this did for me is, it helped me to understand why the well in Section 30 appears to overproduce itself, with only four feet of sand.

I believe that it is connected to a thicker sand close by. And when I look to the north I can see that the greater thickness is east. And also when I look to the south, I get a greater thickness to the east.

And that helps me to put the north-south trend of this sand package with the well in Section 30 on the western edge of that trend. Therefore, I want to move east

of the well in Section 30 in order to get the thicker sand package.

Q. Let's go back to Exhibit Number 2, the isopach. You've described for us the reasons for the positioning of this well in the north half of 30.

Show us what is your strategy, then, for figuring out where to space the other three wells for the remaining three spacing units so that you create the best opportunity for each of those spacing units to have an effective well.

A. Okay. What we would intend to do upon success of a well in the northeast quarter of Section 30 would be to move down into the southwest quarter of Section 29 and develop a well there, as well as the northwest quarter of the southwest quarter of Section 20, to put a well there. We would intend to develop these other units approximately 3000 feet between wells.

Q. Is your company the proposed operator for each of these spacing units?

A. Yes, sir, we are.

Q. And are interest owners involved in your proposed spacing unit also interest owners in common with the remaining three spacing units?

A. Yes, sir, as far as I know, they are.

Q. Let's turn now to the surface issue. Let me have you identify for us Exhibit Number 5. What is that?

A. Yes, sir, Exhibit Number 5 is a location and elevation verification map. It has the topo photocopy, and also the originally proposed location at the A location of Section 30.

Q. Initial examination of surface information led to what conclusion, Mr. Townsend?

A. The original examination led to the conclusion that there didn't appear to be any major surface problems, neither cliffs nor sinks nor anything of that matter.

Q. After filing the request with the Division for your optimum geologic location 660 from the north and east, what has occurred that has caused you to request that that location be moved to the west?

A. We received notification yesterday through a letter that the BLM -- I don't know who does the karsting, but whoever examines the karsting or sinkholes had gone out and identified the probability of a sinkhole, and they requested that we move our location either 600 -- I mean either 200 feet to the north or 200 feet to the west of the original location.

Q. Have you been involved in those discussions in the last day or received information based upon those discussions?

A. Only the letter that the BLM sent me, and I have talked with John --

Q. -- Crane, is it?

A. Crane, yes, sir. I talked with John Crane. And in discussion with him my concern was that we would not have to move further than 200 feet, and he said that we would not.

Q. As you now understand it today, do you believe that a location 860 from the east and 660 from the north is going to be approvable by the Bureau of Land Management for the use of the surface at that location?

A. That's exactly what they indicated to me, yes, sir.

MR. KELLAHIN: Okay. Mr. Examiner, the Exhibit Number 7 is my certificate of mailing. We have not yet received the green card back. The only party to notify in this case -- Let me provide that to you.

The only party to notify in this case is Mountain Petroleum, Mr. Paul Slayton. I know as a matter of fact that he's involved in all four spacing units, and as a matter of courtesy as well as information, we have provided him notification.

But the parties involved in this spacing unit in fact control all the offsets.

With that statement, Mr. Examiner, we move the introduction of Matador's Exhibits 1 through 7.

EXAMINER STOGNER: Exhibits 1 through 7 will be

admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. Referring to Exhibit 2, in your latter testimony you have stated to Mr. Kellahin that you wish to keep 3000 feet between wells.

Is that your proposed plan of action, should this well become producing?

A. In a general sense, yes, sir, that is, and I guess what I mean is, we do not propose to crowd this corner again.

Q. Now, did I hear right when he asked about a proposed well in Section 20, the southwest, southwest quarter?

A. No, sir, the northwest of the southwest quarter, I'm sorry.

Q. I heard wrong. Okay, that brought me up. I thought, How can you get 3000 feet away? Okay.

I don't believe I heard in particular a proposed well in Section 19 or development in 19.

I see by this particular exhibit that that's probably highly -- or a questionable completion at this time and would probably be your fourth choice, but what is your proposed for 19?

A. My proposal for 19 would be to not do anything

with that part of the acreage until we have gathered our information from the other wells that we would drill first. Hopefully, new information may indicate a better location.

Q. Now, referring to Exhibit Number 6 with your actions with the BLM, this is somewhat new to us also, in this type of -- How would you say? Topographic necessity for unorthodox locations or potential of moving.

Have you been out there on the surface?

A. No, sir, I have not been on the surface.

Q. Has -- I assume that Matador personnel have?

A. Yes, sir.

Q. I'm a little confused. Their mark -- There is a sinkhole or potential surface expression [*sic*]. Is there a sinkhole or not on the surface that you can see, in talking with your personnel?

A. In talking with my personnel, he indicated to me -- He's our operations manager, and he indicated to me that when they pointed to a depression and said there appears to be a sinkhole or some type of karsting here, that he could see what they were talking about, but it seemed to be very small, and he jokingly thought it was a buffalo wallow.

EXAMINER STOGNER: Which has the potential of becoming an archeological resource.

Mr. Kellahin, the reason I'm asking this question

in particular, I've had several inquiries, and BLM is starting to move locations around for this reason, and I'm just as much in the dark as you guys are at this point of what they're looking for.

I understand there's a meeting next week with the BLM, but I haven't got authorization to go on that to learn a little bit more about this. I will be inquiring from them more on this.

And that's all I was asking at this point.

MR. KELLAHIN: Yes sir.

EXAMINER STOGNER: And I may even take this exhibit and carry on a little bit further with the BLM and ask them to educate me on what they're looking for and such as that.

But I do not intend for that to be any stake or -- how would you say? -- to reflect on this particular Application at this time, other than the BLM has asked to move it from the 660 to a less unorthodox location. That's all I plan to do with it at this time.

MR. KELLAHIN: We appreciate that, Mr. Examiner.

All my clients know, and we try very hard to bring to you a location that's approved by the BLM or the State Land Office before we ask you to examine that location.

And so we try hard not to have to change the

location after we've filed one with the Division.

But in this instance, having run all those procedures at the last minute, we find that -- yet a new requirement by the BLM that asks us to move it.

We quickly examined to see if we could directionally drill it, what would happen if we moved farther north.

The end result of the process was, we decided we could live with a location that was farther west.

But it's not our preferred geologic location, and it bothers us that reservoir choices are being dictated by surface constraints, and it's been a problem for us for a long time.

Q. (By Examiner Stogner) How about moving to the south? How come that wasn't --

A. They indicated that we were on the northwest edge of this possible sink; therefore, moving south or east was not -- couldn't be done, was not acceptable.

EXAMINER STOGNER: Well, maybe there's some sort of relationship between sinkholes and the Morrow trend. You might want to look at that in the future.

I have no other questions of Mr. Townsend at this time.

MR. KELLAHIN: All right, sir, that's all we have.

EXAMINER STOGNER: Does anybody else have anything further in Case Number 10,853?

This case will be taken under advisement.

(Thereupon, these proceedings were concluded at 9:21 a.m.)

* * *

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 October 26th, 1993.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10853, heard by me on 21 October 1993.

, Examiner
Oil Conservation Division