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. 12,076
APPLICATION OF MARBOB ENERGY CORPORATION FOR SIMULTANEOUS DEDICATION AND UNORTHODOX WELL LOCATIONS, LEA COUNTY, NEW MEXICO	)	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

December 3rd, 1998

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, December 3rd, 1998, 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 3rd, 1998
Examiner Hearing
CASE NO. 12,076

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A P P E A R A N C E S

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By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 9:10 a.m.:

EXAMINER STOGNER: Okay, at this time I'll call Case Number 12,076.

MR. CARROLL: Application of Marbob Energy Corporation for simultaneous dedication and unorthodox well locations, Lea County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan. We represent Marbob Energy Corporation in this matter, and I have three witnesses.

EXAMINER STOGNER: Three witnesses.

Any other appearances? Will all the witnesses please stand to be sworn at this time?

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: Mr. Carr, you may continue.

MR. CARR: At this time, Mr. Stogner, we call Raye Miller.

RAYE PAUL MILLER,

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

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your full name for the record?

A. My name is Raye Paul Miller. The "Raye" is spelled with an "e" on the end.

Q. And where do you reside?

A. Artesia, New Mexico.

Q. By whom are you employed?

A. Marbob Energy Corporation.

Q. And what is your position with Marbob?

A. I'm actually chief financial officer. I also head the land department.

Q. Have you previously testified before this Division?

A. Yes, I have.

Q. At the time of that testimony, were you qualified as a practical oilman?

A. Yes, sir, I was.

Q. Are you familiar with the Application that's been filed in this case on behalf of Marbob Energy Corporation?

A. Yes, I am.

Q. Are you familiar with the status of the lands in the area which is the subject of this case?

A. Yes, I am.

MR. CARR: Are Mr. Miller's qualifications acceptable?

EXAMINER STOGNER: They are.

Q. (By Mr. Carr) Would you briefly summarize for

Mr. Stogner what Marbob Energy Corporation seeks with this Application?

A. Marbob is actually seeking an unorthodox gas well location for the Lusk Deep Unit Well Number 14. The location is to be drilled 1650 from the north line and 990 from the west line of Section 19, Township 19 South, Range 32 East, in Lea County, New Mexico.

That location would be a standard location for a normal 320 standup Morrow unit but does not comply with the special requirements in the special pool rules governing this pool. As such, we are requesting the simultaneous dedication of the standard 643.37-acre spacing and proration unit comprised of said Section 19 of the Lusk Deep Unit for Wells Number 1, 5 and 14 in the Lusk-Morrow Gas Pool.

Q. At the present time, Mr. Miller, there are two Morrow wells producing in this section; is that right?

A. That's correct, the Number 1 and the Number 5 are both producing.

Q. And these are old wells that were grandfathered in when the pool rules were adopted; is that right?

A. These wells were both present at the time of the pool rules. One of them was producing at the time.

Q. What wells [*sic*] currently govern the development of this pool?

A. What's your question?

Q. What rules govern development of the Lusk-Morrow Gas Pool?

A. Okay. The rules that govern are the special pool rules that were adopted by Order Number 2373 in November 21st of 1962. It requires 640-acre spacing and it indicates that the wells are not supposed to be closer than 330 feet to the outer boundary of the southwest northeast, the northwest southeast, the northeast southwest or the southeast northwest of the section.

Q. And is a copy of these special pool rules marked as Marbob Exhibit Number 1?

A. Yes, they are.

Q. Let's go to Marbob Exhibit Number 2, and I would ask you to identify this and review the information on it for the Examiner.

A. Exhibit Number 2 is a plat that basically outlines with the red line the unit boundaries. The subject spacing unit which would be governed is actually Section 19. The well location, or the proposed location, is actually circled there in red in Section 19. The two producing wells currently producing are shown with the circles, the Number 1 well being the well in the northeast northeast and the Number 5 well being the well in the northwest of the southeast.

Q. Will Marbob also call a subsequent witness that can review the -- and identify the other wells in this area?

A. Yes. I would also like to point out, the yellow acreage is actually Marbob leasehold acreage in the area. On that map we have also identified offset operators, and rather than a land person do it my geologist prepared this, and he prints up smaller print than I can read, but the different operators in the different sections are shown in each one of the sections, such as there in Section 13, Lynx, Penwell and Marbob Energy are currently owners in that section.

It winds up that our notice also notified on that section the Commissioner of Public Lands, because the tract that is now Marbob Energy leasehold, at the time of our Application it was unleased State land.

Q. What rights does Marbob own under the subject section, 19? Do you own everything from the surface down, or are there limitations?

A. The unit depths are actually below 4500, and our depths of ownership are actually below that 4500 feet.

Q. So you'd own forty-five feet down?

A. Forty-five hundred feet on down.

Q. Right.

A. Yes.

Q. Is Marbob Exhibit Number 3 an affidavit confirming that notice of this Application has been provided in accordance with Oil Conservation Division Rules?

A. Yes, it is.

Q. And to whom was notice provided?

A. It was provided to the list of folks on Exhibit A, of which would correspond to the different names that were identified as to each section surrounding the proposed Section 19.

Q. Okay, those are identified on the Exhibit Number 2?

A. Yes.

Q. Could you identify Marbob Exhibit Number 4?

A. Yes, that's a letter that we received in support of the Application from Yates Petroleum Corporation.

Q. Have you talked with other operators in the area concerning this Application?

A. Yes, Lynx Petroleum there on our western flank is very interested in this well because of their ownership to the west. We're partners with them, and they keep calling to see when I'm going to prove up their acreage, or when we're going to prove up their acreage.

Q. Have you received any objection from any operator to this proposal?

A. No, sir.

Q. Will Marbob call additional witnesses to review the technical portions of this case?

A. Yes, sir.

Q. Were Exhibits 1 through 4 either prepared by you or compiled under your direction?

A. Yes, sir.

MR. CARR: At this time, Mr. Stogner, we would move the admission into evidence of Marbob Exhibits 1 through 4.

EXAMINER STOGNER: Exhibits 1 through 4 will be admitted into evidence.

MR. CARR: And that concludes my direct examination of Mr. Miller.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Miller, in Exhibit Number 2, the two wells that are currently producing from Section 19 --

A. Yes, sir.

Q. -- the Number 1 and 5, you say?

A. Yes, the Number 1 is producing only from the Morrow. The Number 5 is dually producing from the Morrow and the Atoka. There's an allocation of the production from the two different reservoirs.

Q. Okay, the Number 1, could tell me -- get a little

more detail in the history of that well? When was it drilled? It looks unorthodox, but was it approved?

A. I believe our geologist is actually going to go into the history, if it's all right to defer to him. He's probably more competent there than I.

Q. Okay, I'll just refer that question to him, then.

Okay now, you've identified on Section 2 this yellow area in the Lusk Deep Unit. Is this actually a unitized area?

A. It is a unitized federal unit. There are different participating areas for different formations. The actual participating area for the Atoka, let's say, for the Number 5 well, is actually only the east-half 320. But those participating areas have been designated through the BLM.

The Morrow participating area covers all of Section 19, the portion of 18 and the portion in Section 20.

Q. So all of 19 is included, as far as the Morrow participating area?

A. Yes, sir.

Q. Pursuant to your notification, have you discussed this with anybody? Has anybody been interested in it, or any objections?

A. The only people who've been interested, like I

said, was Lynx Petroleum, because of the fact that they have been looking at some Morrow prospects on their acreage there to the west of us, and they keep asking us when we're going to drill the well, so that they're hopeful we're successful to strengthen their prospect.

Q. That's in Section 18, you say?

A. Actually, Lynx owns the south half of Section 13, they own the remainder of Section 24, and all of Section 25.

In Section 18 the offset operator to the north there is Saba Energy. It was -- The well was the Crazy Horse Federal, there in the southwest of the northwest. It was drilled by Mitchell, previous operator, and it was completed as a Morrow well on a nonstandard 280-acre proration unit.

Q. When I look at Exhibit Number 1, it talks about the pool outline, at least back in 1962, it appears. Has that been extended?

A. I believe that it has, because I believe the well in 13 is also included in the Lusk-Morrow Unit, or in the Lusk-Morrow Pool, but it would be in 13 of 19-31.

Q. Do you know if the pool was extended to take in this section?

A. I believe it is, because that well does show up in that -- under that pool. I don't know what date it was

extended, though. We were not the operator at the time of the original pool creation. That was El Paso. The completion of the Number 1, or the simultaneous dedication for the Number 1 and Number 5 were simultaneously dedicated to the same proration unit, was actually by a different operator. At that time it was Phillips Petroleum. We became operator about five years ago.

EXAMINER STOGNER: Okay, I have no other questions of Mr. Miller. You may be excused.

Mr. Carr?

MR. CARR: At this time, Mr. Stogner, we call Martin Joyce.

MARTIN K. JOYCE,

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

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record, please?

A. Martin Keel Joyce.

Q. And where do you reside?

A. I live in Roswell, New Mexico.

Q. By whom are you employed?

A. I'm employed by Marbob Energy Corporation.

Q. And in what capacity?

A. I am their geologist and computer-systems

technologist.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. I have not.

Q. Could you summarize your educational background for Mr. Stogner?

A. All right. In 1976 I have a high-school diploma from Goddard High School in Roswell.

1981 I have a BS in biology from Baker University in Baldwin, Kansas.

1984, I have a BS in geology from the University of Wyoming, Laramie, Wyoming.

I attended Texas Tech University in Lubbock from 1-91 to 6 of 1993 and completed my graduate course work towards a master's degree in geology. I do not have an MS.

Q. Could you review your work experience for the Examiner?

A. From 1 of 1982 to 6 of 1982 I worked as a technical assistant for Geodata Corporation in Tulsa, Oklahoma. 6 of 1982 to 8 of 1982, I worked as a field hand for a geophysical crew, Rogers Exploration, in Clovis, New Mexico. And from 8 of 1982 to 12 of 1982 I went back to work for Geodata as a technical assistant.

3 of 1984 to 12 of 1989, I mudlogged and wellsite consulted throughout the Rocky Mountain and mid-continent

region, both as an independent -- well, as an independent contractor.

From 1 of 1990 to 12 of 1990 I mudlogged in the west and northwest Permian Basin area, again as an independent contractor.

1 of 1991 to 12 of 1992, I worked for AA Productions on a part-time basis in Lubbock, Texas, working tight-gas sands in the northwest Colorado area.

6 of 1993 to 5 of 1994, I worked for Occidental Petroleum's International Division in Bakersfield, California. I got about eight weeks of Russian wellsite experience with them.

6 of 1994 to 2 of 1996, I supervised and sold jobs for the AC Logging Company in -- Mudlogging Company, in Roswell, New Mexico.

Then from 2 of 1996 to 11-1997, I started my own company, MarJoy, Inc. I specialized in geological and PC consulting.

11-97 to present I have been employed by Marbob Energy Corporation in Artesia, New Mexico.

Q. Are you familiar with the Application filed in this case on behalf of Marbob?

A. Yes, I am.

Q. And are you the project manager for this proposed well?

A. Yes, I am. I'm project manager, and I'm responsible for the development of the subject acreage. I'm jointly responsible for drilling and well completion in that area.

Q. Have you made a technical study of the Morrow in the area which is the subject of this Application?

A. Most of the early technical work was originally done by Hugh Hanagan of Roswell, New Mexico, on a consulting basis for Marbob several years ago. I have reviewed his work and added some of my own to it, and I do concur with his underlying data and technical interpretations.

Q. Are you prepared to share Marbob's data with Mr. Stogner?

A. Yes, I am.

MR. CARR: Mr. Stogner, at this time we would tender Mr. Joyce as an expert witness in petroleum geology.

EXAMINER STOGNER: Mr. Joyce is so qualified.

Q. (By Mr. Carr) Mr. Joyce, let's go to what has been marked as Exhibit Number 5, the orientation plat, and I would ask that you review the information on this exhibit for the Examiner.

A. Exhibit Number 5 is actually what I call a well-location and production map. What you see on it are a number of well spots, large circles. The large circles are

wells that have been drilled below 10,000 feet. The small-circled wells are below 10,000 feet.

Any of the colored wells, the large wells on the section, are actually Morrow penetrations. They've either -- They're active, inactive or have been plugged and abandoned.

The color code on those Morrow penetrations denote -- The blue would be an A completion, the green would be a B-zone completion, and the red is a C-zone completion.

And as you notice on there, there's a mix of zonal completions. Some -- Most of the wells are in the B and the C zones, and the A zone has been completed in some of the wells.

There are a number of other uncolored large circles, or large circled wells, and those are Strawn completions. Generally, this area -- Most of the wells were dual-completed as Strawn and Morrow. There are some exceptions. There have been some later recompletes in the Atoka, and those are denoted in the cumulative well-production figures that are down below each well spot.

You can see in Section 19, our proposed location, along with the Lusk Deep Number 1 well in the northwest -- or, excuse me, northeast northeast quarter, and the Lusk Number 5 in the northwest of the southeast.

Immediately offsetting us, or our proposed location, is the Lusk Deep Number 10. That was a Strawn completion. It is now plugged and abandoned.

You'll notice immediately to the west in Section 24 of 19-31, there are four deep wells that are all Strawn wells. There have been no Morrow tests in that section.

Q. This exhibit also shows traces for the subsequent cross-sections which you will present?

A. Yes, it does. Yes, this is the index map for our cross-sections.

Q. Is it fair to say that the deep wells in this area have typically been completed in multiple zones?

A. Yes, it is.

Q. Let's go to what has been marked as Marbob Exhibit Number 6, your structure map, and I'd ask you to identify and review that for Mr. Stogner.

A. This is a structure contour map that has been overlaid by an isopach map of the Morrow clastic interval, and I'll define those intervals for you on the cross-sections.

Basically what we're looking at is a south-southeast-trending plunging nose that -- it plunges to the southeast at about 100 feet per mile. On the anticline itself, the east and the west flanks both plunge at a rate of 200 to 400 feet per mile.

The crest of the structure spans Section 18 in the northwest -- or northeast quarter of Section 19.

The isopach of the clastic section shows thinning directly on top of that nosing structure. The isopach thins from approximately 300 feet at its thinnest point -- Excuse me, it's thinnest at that point and thickens both east and west to a maximum of about 400 to 450 feet.

Q. Let's go to Exhibit Number 7. Could you identify and review this?

A. Exhibit 7 is again the Morrow clastic isopach section. This time it's overlaid by a gross Morrow sand isopach. Morrow sands were delineated strictly with a gamma ray. Anything with 50 gamma-ray units or less was picked as a sand. There is some lime in the -- especially in the upper section, and those were not included.

This was all done off electric-log work; no mud logs were used in this map. I'm fairly confident that the limes were excluded and we're pretty much looking at all sands here.

As you'll notice, we have a sand thick trending east to west, with Section 19 being in the thickest part of that sand buildup.

Q. Now, that is the isopach of the A sand, correct?

A. No, this is just a gross --

Q. Okay.

A. -- sand isopach --

Q. Let's go now to --

A. -- the entire Morrow interval.

Q. All right. Let's go to your Exhibit Number 8. This is the B sand; is that correct?

A. Okay, Exhibit Number 8 is a gross-sand isopach of the B-sand interval. Again, I'll delineate these intervals on the cross-section so that you'll know what I'm talking about here. This is a B-sand isopach. As you can see on it, the sands trend roughly northwest to southeast, again using the gamma ray to delineate the sands.

As you'll see, or as you can see, we have a sand-thick buildup there in the west half of Section 19 in 19-32, in our proposed well-location area.

Q. All right, let's go to the map of the C sand, Marbob Exhibit 9.

A. The same type of map as the last one, but this is a gross isopach of the C-sand interval, again using 50 gamma-ray units as a cutoff, and below, for sands. Not hardly any lime in this section. I don't think lime is a problem in polluting the map.

Again, you see a large sand pillow here trending from the northwest to the southeast. This sand is probably piled up against this existing structure that's back to the east of this sand.

This particular sand is one of the more prolific sands in this area. In the Lusk Deep Well Number 5, there's a 13-foot clean section of this sand that has developed, and it has produced roughly 9.5 BCF of gas.

Q. Let's go now to the cross-section. Start with Exhibit 10, your east-west cross-section, A-A'.

A. Okay, this an east-west cross-section. It runs north of our proposed well location.

Q. And the trace of that cross-section is shown on Exhibit --

A. On Exhibit 5.

This cross-section defines the intervals that we have mapped. Actually, these are Hugh Hanagan's mapping picks here. Hugh has been a geologist for about 50 years and has worked the Permian Basin for approximately 30 of those years, and he's worked for Mr. Gray off and on over maybe the last 20 or 25 years. Hugh is a very experienced geologist, has worked the Morrow a lot. I won't debate him on his picks here.

The gross Morrow isopach of the clastics section, for mapping purposes, was picked at the very top of the A sand and extends down to the base of the C sand. Some people use upper, middle and lower, and Hugh uses A, B and C sands. This is a stratigraphic section.

As you can see, the A and the B sands are much

more lenticular in nature; and looking on down at the C, it seems to be more of a sheet nature.

Working from the west to the east you can see, especially with the C sand, how the C thickens to the east, towards the prospect area.

The A sand is generally -- It's less productive than the other two sands. In this Lusk area, most of the wells have been made in the B and the C sands, with the C-sand wells being much more prolific.

Q. Let's go now to your north-south cross-section, B-B', and I'd ask you to review the information on that exhibit for Mr. Stogner.

A. B-B' is a north-south cross-section. It runs roughly right down the center of the structure. As you can see, the thicknesses don't vary a lot along structure.

What you do see in the north is especially thin C sands that thicken dramatically as you work your way to the south. Skipping from the Shell well on the northernmost part of the section, down to the Lusk Deep 5 Unit, you can see a massive sand buildup in the C section. On that cross-section you can see the perforations in that C zone. It was a natural completion.

The CAOF on it was 9.5 million cubic feet of gas per day, and it produced almost -- the 9.5 BCF of gas in its first ten years of production.

This well initially was a Strawn-and-Morrow dual-complete, and then I believe Phillips went back in -- let's see -- went back in 1983 and shot the A and the B sections, and I really didn't see much of an increase in our gas production.

5 of 1989 they stepped up the hole and they shot the Atoka, and their Atoka zone has been very prolific also. To date it's cum'd 1.9 BCF of gas and 41,000 barrels of oil.

Currently, the Number 5 well is commingled production from the Atoka and the Morrow.

Q. All right, let's go to the last cross-section, Exhibit Number 12, the west-east cross-section, C-C'.

A. This is just to give you a little better picture of what the sands are doing. This cross-section extends up from the southwest to the northeast.

Again, we have our three-sand zones here. Coming offstructure, you can see how the section thickens there, but once you come up on the structure you get pretty rapid thinning.

The Delhi Taylor in the southwest there has basically a poorly productive C-sand interval. There is some -- There's sand development there, but not nearly as good as the Number 5 well. As you step up to the 5, you can see the good sand development.

And actually looking -- the B-section sands -- This area has a lot of sand as far as Morrow areas go. It's very sand-rich. Just looking at the cross-section, you can see all the potential for the different little gas zones in this area.

Q. Could you summarize for Mr. Stogner why it is that Marbob is seeking an unorthodox well location for the Lusk Deep Unit Well Number 14?

A. We believe that approval of this Application and the simultaneous dedication of wells on this spacing unit will enable Marbob to produce the reserves under the northeast quarter of Section 19, which it is not now able to produce, thereby protecting its correlative rights.

I do not believe that there will be drainage from the offsetting tracts.

We're after additional reserves here, we're not just going for rate recovery. We're looking for new gas, especially in the Morrow.

Approval of this Application will result in the recovery of gas that would otherwise be left in the ground, thereby preventing waste.

Q. What would be the impact on the correlative rights of Marbob if this Application is denied?

A. We will be denied the opportunity to efficiently recover the reserves under the spacing and proration units,

and our correlative rights will be denied.

Q. In your opinion, will the correlative rights of any other operator be adversely impacted?

A. No objections have been raised by any of the offset operators. As Ray mentioned, the people to our immediate west arranged for us to drill this well to prove up their potential reserves.

Q. Would approval of the Application be in the best interest of conservation and the prevention of waste?

A. Most assuredly, yes.

Q. A few minutes ago, Mr. Stogner asked Mr. Miller about the authorization or the approval of the unorthodox gas-well location for this well. Do you know why that -- or how that was approved?

A. This Lusk Number 1 well was an unorthodox Strawn location, and it was only drilled to the Strawn. Initially, it was a dual-complete in the Bone Springs and the Strawn.

The Number 5 well was also a dual-complete, but they drilled to the Morrow in that well and, as I said, they dualed the Strawn and the Morrow.

The Number 1 well, Phillips came back in and deepened in 1975. They deepened it to the Morrow and completed it in the Morrow A, B and C zones. They filed for an application for a simultaneous dedication of those

two units to that particular proration unit in Section 19, and they were granted that application.

MR. CARR: Mr. Stogner, the order that approved the unorthodox location for the Number 1 and authorized the simultaneous dedication of the two wells on that unit is Order Number R-5028, and it was entered on May 22nd, 1975.

Q. (By Mr. Carr) Mr. Joyce, were Marbob Exhibits 5 through 12 prepared by you or compiled under your direction?

A. Yes, they were.

MR. CARR: At this time, Mr. Stogner, we'd move the admission into evidence of Marbob Exhibits 5 through 12.

EXAMINER STOGNER: Exhibits 5 through 12 will be admitted into evidence.

MR. CARR: And that concludes my direct examination of Mr. Joyce.

EXAMINER STOGNER: We're going to take a 15-minute recess at this time before I come back and cross-examine this witness.

(Thereupon, a recess was taken at 9:45 a.m.)

(The following proceedings had at 10:10 a.m.)

EXAMINER STOGNER: Okay, let's go back on the record.

I'm going to take administrative notice of Case

Number 2691, and with Order Number R-2373 was written, R-2373-A and R-2373-B. I'll take administrative notice of Case 6730, which resulted in order R-6197; in Case 5482, R-5028.

EXAMINATION

BY EXAMINER STOGNER:

Q. It is my understanding even though Well Number 1 and Well Number 5 are different numbers, Well Number 5 was the first well on this proration unit?

A. No, the Well Number 1 was the first well, but they just drilled it to the Strawn. The Number 5 came in later. The Number 1 was drilled before the pool rules came into effect.

But I'm sort of confused because the Strawn wasn't drilled until after the order was in effect. So how that -- You know, how that happened, I don't know.

Q. Okay, so --

A. But the 1 was the first well drilled, and it was previous to the pool rules.

Q. Okay, okay. Okay, so the Number 1 was the first well drilled --

A. Yes.

Q. -- in 1960 --

A. Right.

A. -- and that's when it was completed and first

started producing?

A. Drilled in 1960.

Q. Okay, so at that time that would have been a standard location, right?

A. Well, it's -- Well, I'm not sure what the rules were back then. I believe it was an unorthodox location, even for a Strawn location. I don't know --

Q. Special rules for the Strawn?

A. I'm not -- I'm sure there are some, and I don't know what they are, sir.

Q. Okay, what was the spacing prior to 640 acres in the Morrow? Do you know that?

A. I do not know that either.

Q. Okay. Unless you can tell me otherwise, it appears to me that when this well was drilled in 1960, spacing and the -- for gas was 160. That didn't change until 1964. So this would have been a standard location at that time.

A. Okay.

Q. And then there was a provision in Order R-2373 that essentially grandfathered in all existing wells. And in Order Number R-5028 it looks like they went ahead and approved the simultaneous dedication, just went ahead and stated that the first well was unorthodox.

Okay, that was just a little -- tidbits, out of

the way here.

Okay. In looking up in Section 18, how many Morrow wells are presently completed in that section?

A. Well, all four of those wells have been completed in the Morrow. There's just one active well there now, the Lusk Deep 13, and it is producing only out of the Atoka.

The Crazy Horse well is listed as inactive, and there's been a request to convert it to a saltwater disposal well.

The Lusk 2 is P-and-A'd, and the Middleton Federal well up in the northeast section is listed as inactive.

Q. Okay. You stated that this well is being to go after production in the northwest quarter. I thought spacing out here and one well could adequately drain 640 acres. Are you telling me something otherwise?

A. Well, the -- El Paso came in and got the pool rules changed to the one well, 640-acre spacing. I believe what they were doing, they had intentions of turning this area into a gas-storage unit, and whether -- what their real purpose for doing that was, I'm not sure whether they had the engineering data to prove that one well would adequately drain the Morrow, or their purposes were the gas-storage unit, or they were simply trying to hold onto their lease acreage and had to drill less wells. I'm not

sure what their purpose was.

Q. Are you familiar with Order Number R-2373-B, which made the rules permanent?

A. I'm not, sir.

Q. Okay. Well, there's a finding in there that the evidence established that one well in the Lusk-Morrow Gas Pool can efficiently and economically drain and develop 640 acres. I don't see anything in there about a gas-storage area, at least when I reviewed these cases and orders that I just stated. There again, everything I have shows that 640 acres is the spacing out there and that one well can adequately drain that.

A. Here's what I would tell you on one well draining 640-acres. That well was completed in that lowermost C sand, 13-foot-thick sand. If that was the only sand there, then I would say one well would be adequate to drill -- or to drain 640 acres, if there was one 13-foot sand that blanketed this whole area.

But the thing is, there's another hundred feet of potential pays on up the hole that that well didn't even touch.

Q. Is that due to the interfingering or -- it's unconsoli- -- or --

A. I'd just call it typical Morrow, you know, the highly lenticular nature of the -- especially the B sands.

They just come and they go. You've got the point-bar buildups. You know, they thin and they thicken dramatically.

Even -- If you'll look in the cross-sections at the Number 5 well above the main lower C zone, you can see a sand that's trying to develop in that eastern location. And possibly, as you step off to the west there, that sand may develop into a wonderful reservoir just like the sand in the Number 5 is.

If that's the case, you know, you have the potential in our location for producing another 5 or 10 BCF of gas, if the reservoir is there.

Q. Have you looked at the pressures between the Wells Number 1 and 5?

A. Yes. Well, Johnny is coming up here in a minute, and he can -- you can quiz him more on the pressures.

What I know, right now the Number 1 well makes about 150 MCF of gas a day. The Number 5 well makes about 98 to 100 MCF of gas per day. Johnny tells me the Number 5, shutting the well in, the tubing pressure comes up in a couple of days to approximately 1400 pounds surface pressure.

The Number 5 I don't know much about what --

Q. Okay, I'll just defer my questions about reservoir engineering and pressures to Mr. Gray when he

steps up. Okay, so I'll limit it to geology here, questions for geology to here.

A. Okay, thank you.

Q. As far as the completions in your new well, that 14, are you going to test each of the A, B and C sands separately, or is your proposal to blanket-perforate, or what's your plans on completing that well?

A. I'm not sure exactly how we're going to attack this thing. There are so many potential pay zones in it. This would be another question for Johnny. Normally, we get a good drilling break, and we'll stop and test. We don't really like testing intervals.

Especially, we wouldn't want to test a gross interval, and in this well, you know, the -- We're worried, of course, that if we do have good development of that lowermost C sand, we're worried about completion. You know, if we were drilling for that lowermost C sand, we'd be darn worried about completion in that zone.

But, you know, we're looking to these uphole zones. When we do test, though, we're very conscious of trying to test discrete intervals and really try not to mix zones, so we get a good feeling for reservoir pressures on individual sandbodies, rather than test gross thicknesses.

Q. Okay, let's talk about the necessity for the unorthodox location. I'm referring to Exhibits Number 8

and 9, and I'm assuming in these two exhibits that you're showing me, that -- in those two particular sands, that that is the thickest portion within this section, and that's what you're basing your need for the unorthodox location on?

A. Well, it's -- If the map is right, the gross isopach suggests that we have more sand building up at that location. And again, it's a geology thing. If the maps are right, the sand is there. The question is the reservoir quality on it.

Q. Well, what are you basing this exhibit on, then? I mean, I'm assuming you're basing it because you think it's right.

A. Well, I do think it's right. I did the map.

Q. Okay, so I'm going back to -- that's what -- You're trying to get to the thickest portion --

A. We're trying, yes.

Q. -- of those B and C intervals?

A. Yes, we are.

Q. Okay. When I look at that Lusk Deep Number 10, did that penetrate the Morrow formation?

A. It did not.

Q. It did not.

A. No.

Q. Okay.

A. That was a Strawn well.

Q. Does Section 24 have any producing Morrow at this time?

A. No Morrow penetrations there, sir. Those were all Strawn wells.

Q. So since this is an unprorated pool, and should it be necessary -- and hopefully it will be necessary for a well to be drilled in Section 24, equidistant from this well, no closer, no further -- would you see any adverse effects to having another unorthodox location at an equal distance in Section 24?

A. You know, our location is -- Well, if this was a standard 320-standup, it wouldn't be an unorthodox location. We wouldn't have any qualms about somebody coming over there and drilling.

Q. But this isn't -- That's why we're here, because it's not 320 acres --

A. Well, I know --

Q. -- it's 640 acres. With 640-acre spacing, one well is already shown to drain it, and now you're wanting to put three wells in. So again, I'm going to ask my question.

What -- Are you anticipating any adverse effect, should somebody come in and it would be necessary to drill in Section 24 at an unorthodox location of equidistance,

with the present rules that are applicable in this area, and that is the same rules that we're talking about that was approved under Order R-2373, subparts A, B, and Order R-6197, which I'm assuming that you have read and understand?

A. I have read them. I don't fully understand them. I don't feel there will be any adverse effects.

Q. Okay. What would be the closest standard location for this well?

A. Sir? What would be the closest standard location? On these pool-spacing rules?

Q. Yes.

A. It would have to be a -- on a 1990-1990, I believe.

Q. Okay, let's go back to what the pool rules allow. Do you know what a standard location is in this particular pool?

A. Yes, there's a window in the interior 440s of Section 19; we're not allowed to drill anything closer than 330 feet to that outer boundary of those interior four sections.

Q. Okay, so that would be 1650-1650, wouldn't it, from the outer boundary of the proration unit?

A. You're right.

Q. Okay. Now, what prohibits Marbob from drilling

it at 1650 from the north, 1650 from the west, location, and getting the same results?

A. Well, we're moving out of our sand thicks, providing the sand is there. We're just -- this is -- We just consider this to be an optimal location for that well.

EXAMINER STOGNER: Okay. Mr. Carr, I don't have any other questions of this witness at this time, but I might recall him after hearing the drainage --

MR. CARR: Yes.

EXAMINER STOGNER: -- petroleum engineering and testimony that Mr. Gray is going to be presenting at this time.

MR. CARR: Mr. Stogner, at this time we call John Gray.

JOHN R. GRAY,

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

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your name for the record, please?

A. John R. Gray.

Q. Where do you reside?

A. Artesia, New Mexico.

Q. And what is your relationship with Marbob Energy Corporation?

A. I'm president and owner.

Q. Have you previously testified before this Division?

A. I have.

Q. At the time of that testimony, were your credentials as a practical oilman accepted and made a matter of record?

A. They were.

Q. Are you familiar with the Application filed in this case on behalf of Marbob Energy Corporation?

A. I am.

Q. And are you familiar with the development of Section 19 in the Lusk Deep Unit?

A. I am.

MR. CARR: Are the witness's qualifications acceptable?

EXAMINER STOGNER: They are.

Q. (By Mr. Carr) Mr. Gray, could you explain to the Examiner the reasons you are seeking to simultaneously dedicate wells to the spacing unit comprised of Section 19?

A. Well, what I look at, you're looking at the area, looking at the drainages coming out of these wells. Somebody made a statement that one well would drain 640 acres. Well, I think that's the biggest bunch of baloney I ever heard, but -- It might in some areas and some cases,

but not in the Morrow in Eddy County, I don't think.

What I look at down there is, there is a possibility that this well can make a well in the Morrow, but we also have the chance to look at the Bone Springs, the Atoka and the Strawn in going to the Morrow. And I don't feel like it's justifiable to try to drill, to only look at those zones without going on into the Morrow, because I feel like probably the Strawn is going to be depleted in that area. And I think there's going to be some gas that's there that we'll recover, that, if we don't drill it, will probably never be recovered.

Q. When we look at the Number 1 and the Number 5 wells, what kind of pressures are you seeing in those wells?

A. Shut-in pressure on the Number 5 well over a long period of time is somewhere in the neighborhood of 1400, 1450. On the Number 1 well, shut-in pressure is 1080 pounds.

Q. Are these two wells alone going to recover the reserves that are available under Section 19?

A. I don't think so, or I wouldn't be drilling this well.

Q. When you look at drilling this well, why do you need to drill it now?

A. Well, it's a very expensive well to drill, to

start with. We're about 12,600. We can -- We're going to have to do quite a bit of testing, so it makes it a pretty expensive well, and right now drilling prices are a little cheaper, gas prices are a little better than oil prices, so consequently we're not drilling much oil. And we look at the fact that right now is a good time to try to drill it.

Q. If you drill the well and complete it in the Morrow, would it be prudent to operate one Morrow well on this spacing unit at a time?

A. No.

Q. And why not?

A. What would be the purpose? I cannot visualize what would be the purpose. You're not going to drain somebody else. The object of making a well in the first place is to make gas and to sell gas, to make money for the State and the federal government and everybody else.

So I don't know why you'd want to go shut some wells in, particularly in the fact that the Number 5 well makes, oh, three to five barrels of water a day, makes about a hundred MCF. You down there and shut it in for a long time, and you probably ain't going to have nothing when you go back to it, and it won't be because it's drained; it will just be because it's damaged.

Q. And those reserves will be lost?

A. Those reserves will be lost.

Q. If you're able to simultaneously dedicate three Morrow wells on this tract, are you going to be recovering reserves that, without the simultaneous dedication, would be recovered by some other interest owner in this pool?

A. I don't think so.

Q. Has any --

A. And offset it with Lynx over here -- We own 17 percent of the Lynx acreage offsetting us, and offset operators don't have no problem with it. And if we make a well out of this thing that's got decent pressures and decent volumes and everything else, well, I have no doubt but what we're going to drill one on the Lynx acreage -- or Lynx is going to drill it, and we're going to participate in it.

Q. If you're permitted to simultaneously dedicate these wells, three wells, on this section, will you have an opportunity to recover additional reserves that otherwise will just be left in the ground?

A. I think so.

Q. Will you recover reserves that will, without this well, be wasted?

A. I believe they will be.

Q. If you're told -- If the Application is denied and you are not able to drill the well at this time, is this something that you might consider drilling at a later

date?

A. Well, what you're looking at on this, I don't know how long these other wells are going to last. They're down real low now, but how long they're going to last, I don't know. But you're going to milk them dry rather than just shut them in and plug them and go on down the road. And so I would say that most likely I probably wouldn't even be around here to say whether we were going to drill another well or not.

Q. When you drill a well like this proposed well, how do you do it? Do you test each zone as you drill? Would you explain to the Examiner how you go about it?

A. Well, when you say you test each zone, you're going to have a zone, but whether it's going to have anything, it's porous enough and shows enough -- we'll have a mudlogging unit on the well. If it looks great enough, most likely we'll test. If it don't look too good, we probably won't test.

Now, I'm talking about the Bone Springs and the Strawn and the Atoka.

Now, when you get into the Morrow, if we get any kind of a zone that amounts to anything in the first Morrow, we'll definitely test. The second zone, when we see what it looks like, if we've got good sands, we'll probably test again.

Same deal with the bottom zones. If they don't look that good, we'll probably run an RFT across all of them, test each individual with an RFT.

Q. If this Application was approved and subject to the condition that after the well was drilled and completed, you would elect which well to produce on the spacing unit? Would Marbob still drill the well?

A. Would you rephrase that, please?

Q. If the Application was approved for this well, and the Division in the order provided that after you drilled and completed the well, you would elect one well to produce on this unit --

A. No.

Q. -- would you still drill it?

A. No, definitely not.

Q. Do you have anything further to add to your testimony?

A. I don't know how to -- What I feel like, Mr. Stogner, is the fact there's a good possibility that we can make a fairly decent well, with all the geology we went through.

And like I say, Hanagan was -- discovered the Catclaw field and drilled the Catclaw field down there and has had a lot of experience with the Morrow, and I have a lot of confidence in him. And I'm not going to be at all

surprised, when we drill this well over here, that we don't see a Morrow that's virgin, in no way connected with the well that's already there. And that's my hope.

So I think it -- in order for us to drill it, we have to leave things as they are and drill the well, and hopefully it will make the kind of well that I think it's got the possibilities of making. Plus the fact that if I don't make a well in the Morrow, maybe I can make a well in the Atoka or the Strawn or the Bone Springs that will bail me out in the long run, or partially bail me out.

Q. In your opinion, if the well is successful, will it trigger additional development in the area?

A. I don't think there's any doubt about we'll offset it on the Lynx acreage because it's beneficial to us and Lynx both, and Lynx is very interested in this well being drilled before they go ahead and drill this location of theirs.

Q. Do you have anything further?

A. Not really.

MR. CARR: Mr. Stogner, that concludes my examination of Mr. Gray.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Gray, it's pretty easy to say that this pool is on its completing legs, I would assume? Is that what

you're telling me? I mean, it's been producing -- what? Since 1960?

A. Yeah, and I think the structure that these wells are in are on their last legs. But I think it's very, very possible that this -- where we're fixing to drill is going to be in a different reservoir. If I didn't think it was, I don't think I'd be drilling this.

Q. Okay, well, we're here today seeking an exception to some rules that previous operators come in and wanted --

A. Yeah, I --

Q. -- so this is not --

A. -- I realize that.

Q. If this well is successful, then would you and the rest of the operators be willing to come in and change those pool rules in this area where you wouldn't have to come up here all the time?

A. Oh, I think that's a great idea.

Q. But you understand it's got to come from the operators?

A. Okay, that's -- We've only got a very few operators down there, if you're talking about -- Are you talking about overall, everywhere, or are you talking about this area here?

Q. Well, let's be reasonable. I'm talking about the pool.

A. Yeah.

Q. You've got a pool that has a one-well exception to it --

A. Right.

Q. -- because it's not prorated, which you understand that --

A. Right.

Q. -- and there's a general rule that was put into effect about four years ago under Mr. LeMay's term that limited one well -- actually it's been longer than that now -- one well per proration unit in an unprorated pool. Prior to that there was some leeway and exceptions to that, but that particular rule limited.

And now you're asking for an exception. But instead of coming through here all the time and hearing this, why couldn't we have one particular request for this particular pool to lighten it up and allow the operators to drill like this at a standard location? That way you don't have to come in here all the time.

A. I think it's a very good idea. I have a hard time trying to figure out -- I understand that all this was done prior to our being in the picture. And I understand where you're coming from. If we can get it out of your hands in these kind of deals, it will be very well for you and very well for us. And I have no problem.

And I don't think I have any problem -- I know I won't have no problem with Lynx coming forward. Can you see anybody in that area, Raye, that we would have any problem with, what --

Q. Well, I'm limiting my questions to you, Mr. Gray, so --

A. Yes, I understand. I'll try not to bring that old boy in on the conversation.

Q. Okay, if this well is a commercial success, then you wouldn't have a problem with me putting a stipulation in this particular order having you come in and essentially change the rules --

A. Okay --

Q. -- if you show that additional wells and that you wouldn't have to mess with this all the time coming in, that this could be done at the district level easily --

A. Okay.

Q. -- just by moving the setbacks to a 660 or even a 330, what the operators want out there.

A. All right, now what --

Q. Would you be opposed to that?

A. No, my -- I'll ask one question.

Q. I'll allow that, you can ask your one question.

A. I'll drill the well --

Q. Okay.

A. -- and I'll make a good well.

Q. Uh-huh.

A. Now, I come in and what is to keep us from not approving the deal?

Q. The rules, the present rules in effect for this particular one. That's what you're -- That's what I'm asking you to do, is come in and amend the pool rules.

A. Before I drill the well?

Q. Yeah, before you drill the well. Because what you're telling me with today's testimony, nobody's objecting, and quite frankly, I don't have enough reservoir data to really approve this Application, but there's nobody here to object. And two weeks ago, I was -- or a month at a hearing where I got bombarded with technical data, and that was the whole question for drainage.

So if we've got to treat everybody fairly and evenly, there's no way I should be able to approve this Application today without engineering data.

But the fact that nobody is here, it has been producing for this long, and there are other wells and -- or more than one well in the different proration units, and with what you're telling me, then it shouldn't be too hard for the operators to come in and change the setback requirements for this particular pool to allow for -- Why not ask for four wells, one in each quarter section,

provided you're no closer than 660 to the outer boundary of that section?

A. Well, that's what I would -- It's fine with me, I don't -- I have no problem. The only thing, I'd like to get it on the docket, get it set up and get it done, and if we can work at it from that angle it's all right with me. I don't have any problem with it. If you think we can change the rules without --

Q. Besides, you know the operators. That's what I'm proposing, that this -- if I approve this particular Application, I would put a stipulation in there that within a year you and the other operators come forth to amend the pool rules, so we don't have to have these hearings, so we don't have to hear these particular simultaneous dedications which -- I believe you said 640 acres is baloney.

But I don't have any other evidence to show me that. That's what I'm asking you to provide me, to show me that it is baloney, and that's what I'd like for you and the other operators to do in this pool.

A. Really, the only way I can show you it's baloney is to drill the well.

Q. That's what I'm hearing, and that's what I'm putting forth to you, based on there's been no objection, and the geology and the fact that it is so old, I believe

there's enough evidence in here that I could take it under consideration and possibly approve it, or make that recommendation to Ms. Wrotenbery.

But I'd also like to take it one step forward, and for you to come in and show me that 640 -- Well, we can't change 640-acre spacing, because that is a proration unit out there, but we can sure loosen up on the offsetting requirements and such as that.

Okay, I have no other questions of Mr. Gray.

Do you have any?

MR. CARR: No, sir, that concludes our presentation.

EXAMINER STOGNER: Does anybody else have anything in this case, 12,076?

Then at this time I'll take this matter under advisement.

(Thereupon, these proceedings were concluded at 10:40 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 12076, heard by me on 3 December 1998.

Michael P. Stogner, 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 December 8th, 1998.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002