STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

Marathon Case

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 6629
Order No. R-6089

APPLICATION OF HILLIARD OIL & GAS, INC. FOR DIRECTIONAL DRILLING, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 22, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 28th day of August, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Hilliard Oil & Gas, Inc. seeks approval for the directional drilling of its Hanson Bonds Well No. 1, the surface location of which is 1650 feet from the North line and 330 feet from the East line of Section 20, Township 9 South, Range 35 East, Lea County, New Mexico.

(3) That the applicant seeks authority to re-enter said well, to directionally survey the hole from the surface to a depth of 11,800 feet, and to directionally drill from a kick-off point at a depth of 11,200 feet to a total depth of approximately 12,600 feet in the Devonian formation, bottoming said well within 100 feet of a point 1325 feet from the North line and 430 feet from the East line of said Section 20.

(4) That the 40-acre tract under which said well is bottomed should be dedicated to said well in the Devonian formation.

(5) That the applicant should be required to determine the subsurface location of the bottom of the hole by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling, if said well is to be completed as a producing well.

(6) That approval of the subject application will permit the drilling of the proposed well and will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Hilliard Oil & Gas, Inc., is hereby authorized to directionally drill its Hanson Bonds Well No. 1 located 1650 feet from the North line and 330 feet from the East line of Section 20, Township 9 South, Range 35 East, to a Devonian bottom hole location within 100 feet of a point 1325 feet from the North line and 430 feet from the East line of said Section 20.

PROVIDED HOWEVER, that prior to such directional drilling, applicant shall directionally survey said well from the depth of 11,800 feet to the surface and shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe Office of the Division, Box 2088, Santa Fe, New Mexico 87501.

PROVIDED FURTHER, that subsequent to the above-described directional drilling, should said well be a producer, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe Office of the Division, Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

(2) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depths in addition to measured depths.

(3) That the 40-acre tract under which said well is bottomed shall be dedicated to said well in the Devonian formation.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

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NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10670

IN THE MATTER OF:

The Application of Maralo, Inc., for Pool Creation, Special Pool Rules and a Discovery Allowable, Lea County, New Mexico

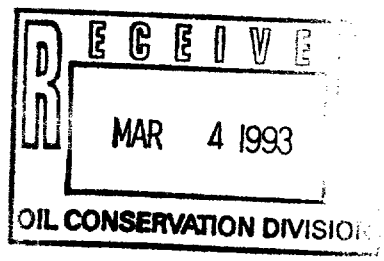
BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

February 18, 1993



REPORTED BY:

CARLA DIANE RODRIGUEZ
Certified Court Reporter
for the State of New Mexico

COPY

A P P E A R A N C E S

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Santa Fe, New Mexico 87504-2208
BY: **WILLIAM F. CARR, ESQ.**

I N D E X

E X H I B I T S

EXAMINER STOGNER: Call next case, No. 10670.

MR. STOVALL: Application of Maralo, Inc., for pool creation, special pool rules, and a discovery allowable, 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 & Sheridan. I represent Maralo, Inc., and I have two witnesses.

EXAMINER STOGNER: Are there any other appearances?

Will the witnesses please stand to be sworn at this time.

[And the witnesses were duly sworn.]

EXAMINER STOGNER: Mr. Carr?

MR. CARR: At this time we would call Shane Lough.

SHANE LOUGH

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

Q. Will you state your name for the

record, please.

A. Carl Shane Lough.

Q. Where do you reside?

A. I reside in Odessa, Texas.

Q. By whom are you employed?

A. Maralo, Incorporated, in Midland, Texas.

Q. What position do you hold with Maralo?

A. Senior staff geologist.

Q. Mr. Lough, have you previously testified before this Division?

A. No, I have not.

Q. Would you briefly summarize your educational background and review your work experience for the Examiner?

A. Uh-huh. I hold a B.S. degree I geology from the University of Texas in the Permian Basin. I've worked my entire career in Midland, Texas, as an exploration geologist. I've worked for Pennzoil, Southland Royalty, Williams Exploration. I've consulted for two independent companies in Midland, and I currently work for Maralo, and I began my employment with Maralo in 1990.

Q. Since your graduation, at all times you

have been employed as a petroleum geologist?

A. That's correct.

Q. Does the geographic area of your responsibility for Maralo include the portion of Southeastern New Mexico which is involved in this case?

A. Yes, it does.

Q. Are you familiar with the application filed in this matter on behalf of Maralo?

A. Yes.

Q. Have you made a geological study of the area that is the subject of this case?

A. Yes.

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

EXAMINER STOGNER: Mr. Lough is so qualified.

Q. Would you briefly state what Maralo, Inc., seeks in this case?

A. Maralo is here to request a new pool creation, with special pool rules establishing 80-acre spacing, for Maralo's initial well in this prospect; the 80-acre unit being the east half of the northwest quarter of Section 20,

Township 9 South, Range 35 East, Lea County.

Q. In what formation are you proposing the pool be created?

A. It's for the Devonian.

Q. Have you prepared certain exhibits for presentation here today?

A. Yes, I have.

Q. I would first like to direct your attention to what has been marked Maralo Exhibit No. 1. I would like you to first identify this exhibit, and then review it for the Examiner.

A. This is a regional location plat showing three analogous fields to our proposed pool creation, with our proposed pool being located in the northwest portion of the map.

Highlighted are three analogous fields being to the southeast, Crossroads South, toward the northwest near the center of the map, Crossroads West, and toward the north/central portion of the map, the Bough-Devonian fields.

Q. We also have a well on the extreme western portion of the plat. What field is that in?

A. That's the abandoned Jenkins pool.

Q. When was that developed, approximately?

A. It was drilled and completed in 1963 and produced approximately 10,000 barrels of oil.

Q. If we look at the other Devonian fields depicted on Exhibit No. 1, starting in the southeastern portion of the plat, what is the approved spacing for the Crossroads South?

A. Crossroads South has approval for 80-acre spacing.

Q. If we go to the Bough field in the north, is that also 80-acre spacing?

A. It has also been approved for 80-acre spacing.

Q. What is the status of the Crossroads West pool?

A. The Crossroads West pool was never presented for 80-acre spacing. However, it was effectively drilled on 80-acre spacing.

Q. Do you know what the pool boundaries are for that pool?

A. The pool boundaries are the east half of Section 31 and the northeast quarter of Section 6.

Q. Was that all developed by one operator, did you say?

A. It was, yes.

Q. Let's move now to Maralo Exhibit No. 2. Could you identify that for Mr. Stogner?

A. This is a land plat indicating Maralo's requested pool boundary, highlighted in a red outline, and showing Maralo's lease position on this prospect.

Q. All right. If we look at this exhibit, there are a number of leases shown that surround the proposed pool. Who owns those leases?

A. Maralo, Incorporated, owns all of these leases shown on this map.

Q. Are there any other Devonian operators in the pool or within a mile of the pool boundary?

A. There are not.

Q. We have well spots all over this exhibit. Could you just summarize what formations we're talking about and the status of these wells?

A. Virtually all of the abandoned oil well locations are Bough formation abandoned oil wells. There are two abandoned gas wells in Section 16 that are abandoned San Andres gas completions.

Q. Are all the wells shown on this map or

plat, except the subject well, either plugged and abandoned wells or dry holes?

A. They are. With the exception of the Amerada #1 Anderson located in the northwest of the northeast of Section 30. That well is an abandoned Devonian well and has been plugged back to the San Andres and is inactive but has not been plugged.

Q. The well that Maralo has completed in the Devonian is the #1 well which is located in Unit C of Section 20?

A. Yes, it is.

Q. Let's move now to Maralo Exhibit No. 3. Would you identify that for Mr. Stogner?

A. This is a structure map that I have constructed on the top of the Devonian dolomite, base of the Woodford shale. Again, this map covers the Crossroads-West Field, the Bough-Devonian Field, the now abandoned Jenkins-Devonian Field, and our subject well.

Q. Now, the green area indicates what?

A. The green area indicates what we see--the data we have acquired as the productive boundary of this pool.

Q. Using the structure map, Mr. Lough,

could you review for the Examiner Maralo's plans for the development of this Devonian field.

A. Yes. We currently--we have completed the Maralo Barnes 20 #1, which is the subject well. We currently have reentered the Hanson Bonds, which is located in the southeast of the northeast, and are sidetracking that well for an anticipated Devonian completion.

We have what we anticipate, if each step that we take on this prospect is successful, we have, in addition to the well we're currently operating and reentering and sidetracking, we feel like if it's successful, we should have potentially three additional wells to be drilled on this field.

Q. And where are they?

A. One would be the north half of the northeast quarter of Section 20; a second or an additional location would be the southeast of the southeast quarter of Section 17. If successful, then we have a very strong potential to drill a well in the northwest quarter of the northwest quarter of Section 21.

Q. What is the status of the acreage under the present proposed 80-acre proration unit?

A. Maralo has the acreage leased, and it is fee ownership.

Q. And then you are sidetracking with the well in the southeast of the northeast of 20? You're taking that to the west?

A. That's correct.

Q. And what would be the acreage dedicated to that well?

A. It would be the lay-down 80.

Q. And what is the character of that land?

A. That land is leased by Maralo and is fee ownership.

Q. As to the north half of the northeast of 20, the character of that land?

A. That land is leased by Maralo, and it's a federal lease.

Q. What is the status of the land in the southeast of 17?

A. That is leased by Maralo and it is state land.

Q. And then also as to the northwest of 21?

A. That lease is held by Maralo and is state land.

Q. So, actually, if you are successful,

you would reach full development with five wells on 80-acre spacing?

A. That's correct.

Q. How does this Devonian reservoir compare, structurally, to the Jenkins Field to the south and the west?

A. The overall reservoir is similar. We feel like we have structural separation from the Jenkins pool, and we feel like we will ultimately be structurally high to that pool.

Q. Mr. Lough, when we originally filed this application, we were also seeking a discovery allowable. Does Maralo intend to pursue a discovery allowable?

A. Yes.

Q. Are you going to pursue the discovery allowable?

A. No. The discovery allowable we are not going to pursue. That's not what we're interested in.

Q. Let's go now to Exhibit No. 4. Would you identify that, please?

A. It's an isopach of the net effective porosity above the identified oil/water contact in the Devonian formation in the area of our new

pool creation. Again, this isopach shows that we should be--that we believe that we're separated from the Jenkins-Devonian pool located in Section 30 and, again, the proposed 80-acres are outlined in red.

Q. And, based on your porosity isopach, in terms of just overall position within this pool, how would you characterize the location of the initial well?

A. The location of the initial well is actually a marginal location in terms of structural position and porosity, location of porosity within this wellbore. The wellbore appears to be very near the oil/water contact on this structure, and we feel like subsequent wells, as indicated on this exhibit, will encounter improved porosity and structure.

Q. This exhibit contains information obtained from drill stem tests?

A. Uh-huh.

Q. Have you compared this data with the drill stem test information on the other Devonian pools in the area?

A. Yes. The pressures that we encountered from our drill stem tests in the Upper Devonian

in our well, are very, very comparable to drill stem tests in the Bough Field, the Crossroads-West Field and the Crossroads-South Field.

Q. Mr. Lough, you have a trace on this exhibit for a cross-section?

A. That's correct.

Q. You have just one copy of that?

A. Yes. We have one copy with us today, but we can provide additional copies.

MR. CARR: Mr. Stogner, this is a large exhibit. With your permission, could we put it up on the wall?

MR. STOVALL: This a full scale cross-section?

THE WITNESS: Yes, this is a full-scale, reasonably large cross-section.

EXAMINER STOGNER: With that, let's go off the record for about five minutes while you're hanging that up.

[A recess was taken.]

EXAMINER STOGNER: The hearing will come to order. Mr. Carr?

Q. (BY MR. CARR) Mr. Lough, would you now refer to what has been marked as Maralo Exhibit

No. 5, and you may want to go to the exhibit, and, simply, first identify it from the line of cross-section and then review it for Mr. Stogner.

A. Yes. This is structural cross-section A to A'. The beginning of the cross-section is in Unit D of Section 30 to the west, continuing east, north and east, to Unit E in Section 21.

The cross-section is presented for a number of reasons, one of which being that it is a cross-sectional view of the structure map that was presented earlier. We feel that we can indicate structural separation from the now abandoned Jenkins pool, and also the cross-section is showing what we believe to be the productive porosity in our requested new pool creation, with the Maralo Barnes 20 #1 located here, indicating that this well has approximately 16 feet of effective porosity above the oil/water contact.

The oil/water contact is identified by several drill stem tests within this overall area from numerous wells. We feel like we've got a fairly accurate oil/water contact predicted here. Our Barnes well appears to substantiate

that oil/water contact.

We also feel like subsequent wells drilled on this structure will encounter the reservoir structurally high, with resulting thicker porosity, resulting in anticipated commercial production. This wellbore is the Barnes 20 #1--

EXAMINER STOGNER: You're referring to the fourth well from the left?

THE WITNESS: That's correct.

A. The fifth well from the left is the well that Maralo is currently reentering and sidetracking and kicking approximately 300 feet to the west of the original wellbore, this wellbore having encountered a fault in the Devonian. The wellbore actually penetrated a fault in the Devonian.

Q. All right. Mr. Lough, could you just summarize the geological conclusions that you've been able to reach as a result of your study of this area?

A. We feel like we have identified a new pool, a new structural pool in the Devonian reservoir. Our initial well appears to have encountered the reservoir in a structurally low

position, with a resulting rather thin oil column, putting us close to the oil/water contact.

We feel like we have the potential for drilling four additional wells on this structure with the additional wells encountering the Devonian, significantly structurally high to our first well. And we feel like these subsequent wells, taken one well at a time, should result in significantly better production than what we have encountered in our initial well, being the Barnes 20 #1.

Q. Do the geological characteristics of this new Devonian reservoir compare favorably to the geological characteristics of the other Devonian reservoirs in this area?

A. From the data we have on this reservoir, it appears to be a typical Devonian reservoir for the Devonian in the northern portion of the Tatum Basin. We feel like we have a very comparable reservoir to the analog fields that we discussed earlier.

Q. These fields are developed either under 80-acre rules or on an effective 80-acre spacing pattern?

A. That's correct.

Q. Were Exhibits 1 through 5 prepared by you?

A. Yes, they were.

MR. CARR: At this time, Mr. Stogner, we move the admission of Maralo Exhibits 1 through 5.

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

MR. CARR: That completes my direct examination of Mr. Lough.

EXAMINER STOGNER: Mr. Carr, I do have quite a few questions, and I want to defer some of them until I hear the next witness, the geological ones.

EXAMINATION

BY EXAMINER STOGNER:

Q. Referring to Exhibit No. 4 and, for that matter, Exhibit No. 3, you can kind of help me understand what kind of deposit this is in the Jenkins area. It appears to be pod-like. You'll have to go back to elementary geology. I'm an engineer.

A. Okay.

Q. Sort of get me to understand what kind

of deposits we have, what kind of environment we're seeing? I'll let you start with that.

A. Okay. The formation that we're looking at is the Devonian dolomite. The small structures that are shown on Exhibit 3 are the result of tectonic activities, faulting and compressional forces that created the structures that I have contoured as a structural representation of the fields and the structures.

It's a fairly contiguous formation in reservoir. The traps and resulting fields that are on this are formed as structural traps with oil/water contacts on each--separate oil/water contacts on each one of these fields.

When the small structures were formed, the resulting traps were formed. Oil migrated into the traps and filled each trap to a different spill point, and resulted in the oil/water contacts being present on each field and being at different elevations on each field.

Q. And, essentially, these elevation changes is what you're claiming separates the old Jenkins pool in Section 30 from your proposed area in Section 20, is that correct?

A. That's correct. Yes, it is.

Q. Now, looking over in Section 19, there appears to be a very small area there?

A. Yes.

Q. And there seems to be, looks like a Kerr-McGee well in there, with six feet of--

A. That's correct. That well appears to have potentially six feet of effective porosity above the oil/water contact.

The well was drill-stem tested above this porosity and was drill-stem tested tight. The well was then drilled deeper, below the oil/water contact, before a second drill stem test was conducted in the well, and that drill stem test recovered virtually all water.

I believe that there is probably a very thin oil column in that wellbore that was not effectively tested by DST due to the fact that they had drilled well into the water table before they conducted their drill stem test.

Q. You talked about the oil migration into this area. Would that have been considered one common source and supply moving into the area, each individual step? I guess the way I could visualize this is stepping stones being trapped in these small little trappings?

A. That's right. It was, over geologic time, it probably happened within a very narrow window, and it was the individual traps that were formed before the migration occurred that resulted in the individual accumulations that we see.

Q. Now, the small fault on the east side of Section 20, if I'm reading my map correctly, then, it really doesn't bisect or separate this little pod?

A. That's correct.

Q. It just seemed to upset it more than--

A. That's correct. That's exactly right. Had the Bonds well that penetrated that fault not penetrated it but had been drilled slightly to the west, we would have never seen the fault.

EXAMINER STOGNER: Like I say, Mr. Carr, I have a lot more other questions, but I want to let your engineering witness go ahead and testify at this time. Then I can probably direct my questioning to either one of them at that time.

MR. CARR: At this time, Mr. Stogner, we'll call Richard Gill.

RICHARD A. GILL

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

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

A. My name is Richard Alan Gill.

Q. Where do you reside?

A. I live in Midland, Texas.

Q. By whom are you employed and in what capacity?

A. I'm a division engineer for Maralo, Incorporated.

Q. Mr. Gill, have you previously testified before this Division?

A. No, I have not.

Q. Could you briefly summarize for Mr. Stogner your educational background and then review your work experience?

A. I got a degree in petroleum engineering from Texas Tech University in December of 1980.

I went to work for Amerada Hess Corporation here in Midland for a couple of years, and have been at Maralo since 1983.

Q. Does your geographic area of responsibility with Maralo include the portion of Southeastern New Mexico involved in this case?

A. Yes, it does.

Q. Are you familiar with the application filed in this case on behalf of Maralo?

A. Yes, I am.

Q. Have you conducted an engineering study of the proposed new pool?

A. Yes, I have.

MR. CARR: At this time, Mr. Stogner, we would tender Mr. Gill as an expert witness in petroleum engineering.

EXAMINER STOGNER: Mr. Gill is so qualified.

Q. Let's refer to what has been marked as Maralo Exhibit No. 6. I would ask you to first identify this exhibit and then review it for Mr. Stogner?

A. Exhibit 6 is some original oil in place calculations that I ran not only on the field in question but also on a couple of the offset fields that were mentioned before.

As you can see on the first page, there were some calculations done on the

Crossroads-South Field and the Bough Field, these two both being set up on 80-acre spacing already.

The purpose of these were mainly to try to determine what kind of recovery factor it looked like the fields were producing. Running through the calculations, it looks like the Crossroads-South Field had 6.8 million barrels in place, produced a little over 3 million barrels, and recovered about 44 percent of the oil in place.

The Bough Field looks like it had about 9.8 million barrels in place, recovery was 3.7 million barrels, for a recovery factor of 38-1/2 percent.

Q. What is the source of the information that you've utilized in preparing this exhibit?

A. This information came from the published data in the Roswell Geological Society Symposium, with a slight alteration in the Bough Field. The study there was done when there were only two wells, two additional wells were drilled, so the productive acreage for this was expanded a little bit from the published data.

Q. Let's go to the next exhibit?

A. All right. The next page is called the Barnes Area Field, for lack of a better name. That's the well we have producing out there now in this pool. Just arbitrarily using a 42 percent recovery factor between what it looked like the other fields were going to do, it looks like that field is capable of producing about 945,000 barrels.

Q. And if we look at the data you utilized in reaching this conclusion, your productive acres, that is from Mr. Lough's mapping?

A. Right. The isopach map that was presented, I guess Exhibit 4.

Q. And then the net pay thickness is, again, from his porosity isopach?

A. Right, the same exhibit.

Q. And the other figures are figures that you have drawn from the Roswell Geological Society Reports on offsetting fields?

A. Right.

Q. Let's go to the third page of this exhibit.

A. All right. On the third page I took the numbers strictly for the producing well that we have, the Barnes 20 #1. I ran a case where if

the well were on 40-acre spacing, where it would drain 40 acres, and ran a case if the well were to drain 80 acres.

It showed at 40 acres the well would effectively drain 47,000 barrels; on 80 acres it would drain about 122,000 barrels.

Q. Let's move from there to your decline curve analysis, Maralo Exhibit No. 7. I would ask you first to identify that and then review this for Mr. Stogner.

A. All right. Exhibit 7 is the decline curve on the Barnes State 20 #1. Attached to it is my analysis of the projected production based on that curve. The well doesn't have much production history to go by, but on the analysis, using the current rate, 28 barrels a day, and the economic limit of about five barrels a day, and a decline rate of 10 percent a year, it shows that the well will ultimately recover 86,000 barrels.

Q. So, when you compare this information from Exhibit No. 7 with the recovery figures that are shown using the different spacing scenarios for this well shown in Exhibit No. 6, what conclusion can you reach?

A. My conclusion is that this well will

effectively drain more than 40 acres. It won't drain totally 80 acres, the reason being the downdip location of the well. It's not in the structurally most advantageous part of the unit.

Q. If the subsequent wells in the field are drilled to the structurally higher positions to which they're projected, can you make an estimate for the Examiner as to how many acres these wells will be able to drain?

A. I think they'll easily drain 80 acres.

Q. If this application is approved and if 80-acre spacing is adopted, will this have any impact on the additional drilling in this area?

A. Yeah. Like Shane said, there's probably legitimately four more locations that could be drilled on the 80-acre spacing. On 40 acres, undoubtedly, in order to hold all the leases, there would probably have to be some wells that would have to be drilled that probably wouldn't be economic.

So the question becomes, I don't know whether we would drill them or not. It would really depend.

Q. In your opinion, would 80-acre spacing rules, at least on a temporary basis, be the most

efficient way to develop the reservoir at this time?

A. Yes, I do.

Q. If rules are adopted for a temporary basis, how long would it be until you would have more production information on this reservoir so that you could come back and seek the establishment of permanent rules?

A. I think we could probably get by with a year. Give us a year's production on the current well, we'll have the next well down here in the next month or so, and we possibly might have a third well drilling by then.

Q. And during that year you would be able to, more accurately, establish a decline rate for the field?

A. Right.

Q. In your opinion, will approval of this application and the establishment of a new pool in the Devonian on 80-acre spacing, be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A. Yes, I believe so.

Q. Were Exhibits 6 and 7 prepared by you?

A. Yes, they were.

MR. CARR: Mr. Stogner, at this time I would offer Maralo Exhibits 6 and 7.

EXAMINER STOGNER: Exhibits 6 and 7 will be admitted into evidence.

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

EXAMINATION

BY EXAMINER STOGNER:

Q. Just for clarification, I'm understanding that the discovery allowable request be dismissed at this time?

A. Yes, sir.

EXAMINER STOGNER: So, essentially, what we have left over now is 80-acre spacing and limited well location requirements?

MR. CARR: Yes, sir.

EXAMINER STOGNER: I really have no engineering questions at this time but, like I said, I still have some questions.

MR. CARR: Okay.

EXAMINER STOGNER: I'll throw them out, and whichever witness is more appropriate to answer it, please let me know.

Your application requests a 330-foot offset to the outer boundary of the spacing

unit. This is unusual for 80-acre spacing in that normally we have 150-foot limit radius within that center of either quarter-quarter section. Do you want to expand on that?

MR. LOUGH: I'm not sure, Mr. Stogner, what the question is in reference to.

EXAMINER STOGNER: Well, I'm referencing your application.

MR. STOVALL: Let me rephrase the question. Normally, when we set up the full 80-acre spacing in an oil pool, the well location requirements are that the well be within 150 feet of the center of the quarter-quarter section.

MR. LOUGH: Okay.

MR. STOVALL: And he's asking why you want the larger drilling window.

MR. LOUGH: No, that would be perfectly acceptable to us. We don't really need an exception to that.

MR. STOVALL: That answered a lot of questions.

EXAMINER STOGNER: It sure did. Let's talk about the old well back to the east there in Section 20, which would be affected, of course, by this ruling. What is its present status?

Could you give me a little history of the well, whichever one of you is more appropriate?

MR. LOUGH: Yes. Are we talking about--

EXAMINER STOGNER: The one that is being directionally drilled.

MR. LOUGH: That well was originally drilled in 1977 by Mr. Hanson, Hanson Operating. It was drilled to the Devonian and was plugged. The well was subsequently reentered by Hilliard Oil & Gas in 1979. An attempt was made to sidetrack the well by Hilliard, and they were unsuccessful, and the well was plugged a second time.

We recently, within the last two weeks, have started operations on that well in an attempt to sidetrack it and kick it to the west; so, currently the status of the wellbore is that it's plugged in the Devonian. We are currently drilling at about 9900 feet in the sidetracked hole in that wellbore.

EXAMINER STOGNER: When--and I'm going to ask some general questions of Maralo--when a prospective drilling track or operation is proposed by Maralo, who does it go through? Does

it go through the engineer? the geologist? Who makes the permit and such as that?

MR. LOUGH: Typically the geologist works up the prospect. It is run through the engineering department for their input and their expertise. We have a department in our company that files the permits, and once the permits are given, we have a drilling department that handles the actual staking of the well, spudding, the drilling of the well, the drilling operations.

EXAMINER STOGNER: So you wouldn't necessarily, being the geologist proposing either a reentry, sidetracking or drilling a new well, wouldn't really be aware of any rules and regulations pertaining to the offset locales or rules or regs, is that correct?

MR. LOUGH: That is correct. I wouldn't consider myself an expert or extremely knowledgeable about specific rules and regulations.

EXAMINER STOGNER: Who would that person be?

MR. LOUGH: Would it be Dorothea?

MR. GILL: Yeah, Dorothea.

MR. LOUGH: Dorothea Owens.

MR. GILL: She works that department for us.

EXAMINER STOGNER: And you said the well is being directionally drilled at this point?

MR. LOUGH: Yes, it is.

EXAMINER STOGNER: Or is it down?

MR. LOUGH: No, it's projected to go to 12,500 feet, and we're currently at about 9900 feet.

EXAMINER STOGNER: Has that directional drilling been authorized?

MR. LOUGH: Yes.

EXAMINER STOGNER: Do you remember the order?

MR. LOUGH: I can't say that I know the order, no.

MR. CARR: Mr. Stogner, we would be glad to provide you with the order number.

EXAMINER STOGNER: Okay. Like I said, I couldn't remember the authorization number on that.

Now, would you be aware or would she be aware of the 330 offset if this was spaced on 40 acres?

MR. LOUGH: I think Dorothea would be aware of that.

EXAMINER STOGNER: But you would not?

MR. LOUGH: Not necessarily, no.

EXAMINER STOGNER: If one violated that rule, Maralo would definitely feel the effect, I would assume?

MR. LOUGH: Yes.

EXAMINER STOGNER: Then I won't mention anything about the well in Eddy County, the Little Bear State Unit Well #1.

MR. LOUGH: Yeah, that's another--

EXAMINER STOGNER: Like I said, we won't mention that at this point.

If you'll get me the order number on the particular directional drilling.

MR. CARR: I will.

EXAMINER STOGNER: Is there a proposed pool name out there that Maralo has, or would you want us to leave that up to our district geologist in Hobbs?

MR. LOUGH: Given the option, we would like to provide a suggested name.

EXAMINER STOGNER: Well, what is it?

MR. LOUGH: Would it be necessary to do

that currently? Would it be more expeditious to do that?

EXAMINER STOGNER: It would be appropriate now, yes.

MR. LOUGH: I think the recommended name would be Highland Field.

EXAMINER STOGNER: H-I-G-H--

MR. LOUGH: H-I-G-H-L-A-N-D.

EXAMINER STOGNER: Where did you get that name?

MR. LOUGH: Just came to mind, basically. There's no topographic features out there to key off of, or anything like that.

EXAMINER STOGNER: There are no topographic features in Crossroads?

MR. LOUGH: Well, that hasn't been used. "Crossroads" has been used quite a bit out there for field names, and I would kind of like to get away from that.

EXAMINER STOGNER: Let's put it this way. Your suggestion has been brought to us and we will act appropriately.

MR. LOUGH: Okay.

EXAMINER STOGNER: I don't have any other questions of this witness or either one of

these witnesses.

Mr. Carr, anything further?

MR. CARR: Nothing further, Mr. Stogner.

EXAMINER STOGNER: Does anybody else have anything further in this matter?

If not, Case No. 10670 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. 10670 heard by me on 18 February '93.

, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, 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 March 2, 1993.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ, RPR
CCR No. 4

NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10670

IN THE MATTER OF:

Case No. 10670 Being Reopened Pursuant to the Provisions of Order No. R-9912 Which Order Promulgated Special Rules and Regulations for the Northeast Jenkins-Devonian Pool, Including a Provision for 80-Acre Spacing Units.

BEFORE:

JIM MORROW

Hearing Examiner

State Land Office Building

June 9, 1994

REPORTED BY:

CARLA DIANE RODRIGUEZ
Certified Shorthand Reporter
for the State of New Mexico

JUN 19 1994

COPY

A P P E A R A N C E S

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
BY: **WILLIAM F. CARR, ESQ.**

I N D E X

E X H I B I T S

EXAMINER MORROW: Call Case 10670, which is the matter of the special rules for the North Jenkins-Devonian Pool.

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 & Sheridan. We represent Maralo, Inc., in this case, and I have two witnesses.

EXAMINER MORROW: Any other appearances?

Will the witnesses please stand to be sworn.

[And the witnesses were duly sworn.]

MR. CARR: At this time, I call Shane Lough.

CARL SHANE LOUGH

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

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

A. Carl Shane Lough.

Q. Where do you reside?

A. Odessa, Texas.
Q. By whom are you employed?
A. Maralo, Incorporated.
Q. What is your current position with Maralo?
A. I'm a senior staff geologist.
Q. Have you previously testified before this Division?
A. Yes.
Q. In fact, you were the geological witness at the time the temporary pool rules were adopted for this pool, is that correct?
A. That's correct.
Q. At the time of that testimony, were your credentials as an expert in petroleum geology accepted and made a matter of record?
A. They were.
Q. Are you familiar with the Northeast Jenkins-Devonian Pool?
A. Yes.
Q. Are you familiar with the recent development in the Devonian formation in this area?
A. Yes.
MR. CARR: Are the witness's

qualifications acceptable?

EXAMINER MORROW: Yes.

Q. Mr. Lough, would you briefly state what Maralo seeks by appearing in this case?

A. Yes. Maralo requests that the temporary rules for the Northeast Jenkins-Devonian Pool, identified as the east half northwest quarter, and the northeast quarter of Section 20, Township 9 South, Range 35 East, Lea County, New Mexico, these rules which are currently temporary field rules established by Order R-9912, we request that these be established as permanent rules.

Q. When were these temporary rules effective?

A. They were effective May of 93.

Q. And these rules provide for 80-acre spacing proration units in the Devonian, is that right?

A. That's correct.

Q. Have you prepared exhibits for presentation here today?

A. I have.

Q. Would you refer to what has been marked as Maralo Exhibit No. 1, and identify and review

this for Mr. Morrow?

A. Maralo Exhibit No. 1 is a general orientation plat, with the Jenkins-Northeast Pool highlighted in red. Four additional Devonian fields with individual Devonian wells, highlighted in green, are also shown on this map.

The significance of this is, these fields currently were established with 80-acre field rules when they were drilled, with the exception of Crossroads West, which went under statewide rules of 40 acres. However, the field was developed by a single operator under 80-acre spacing.

Also, to the southwest of our Jenkins-Northeast Field, in the subject field, there's a single well highlighted in green. That is the Jenkins-Devonian Pool. This well will be shown on an additional exhibit.

EXAMINER MORROW: Which one was that, sir?

THE WITNESS: That's the well located on the left portion of the map, approximately a mile and a half southwest of the Jenkins-Northeast.

Q. Mr. Lough, you indicated that the pool boundaries, as defined by the Division, of Jenkins-Northeast, include the northeast quarter and the east half of the northwest quarter?

A. That's correct.

Q. And Jenkins is south and west of there? That's a separate pool?

A. That's a separate pool.

Q. You'll show that with subsequent geological exhibits?

A. That's correct. We'll show separation.

Q. Each of the other pools shown on this exhibit are Devonian pools, and they're either developed on 80-acre spacing because of the rules, or are on an effective 80-acre spacing pattern?

A. That's correct.

Q. Let's go to Exhibit No. 2, your structure map. Will you review that, please?

A. Exhibit 2 is a structure map contoured on the top of the Devonian. The significance of this map is, this map shows separation from the Jenkins-Northeast Pool, compared to the Jenkins Pool located approximately a mile and a half south/southwest of the Jenkins-Northeast Pool.

This exhibit also shows effective pay for the Jenkins-Northeast Pool, that being highlighted in green.

This exhibit also has highlighted in green, within the small circles, the Devonian completions in the area.

It also shows a recent field development, that being the Maralo Bonds No. 1, shown on this as a sidetrack well, located in the south half of the northeast quarter of Section 20.

And the trace, or line of section for a cross-section to be presented, is also indicated on this map, that being a west-to-east cross-section, A - A', which goes through the Jenkins 1 Well field, across a dry hole separating the Jenkins Field from the Jenkins-Northeast Pool, across the Jenkins Pool to a dry hole on the eastern side of the Jenkins-Northeast Pool.

Q. So, this exhibit shows all the development in the area?

A. Yes, it does.

Q. And you have included on the exhibit all the pertinent information on each of those

wells, including the significant dry holes in the immediate area?

A. Yes, that's correct.

Q. As to the ownership of the tracts surrounding this pool, are there any other operators in the Devonian formation?

A. No, there are not.

Q. Are there any other Devonian operators or operations within a mile of this pool?

A. No, there are not.

Q. Let's go to your next exhibit, the isopach, and I would like you to review the information on this exhibit for Mr. Morrow.

A. Okay. This is Exhibit 3, which is a porosity isopach of the Devonian formation. It's the porosity or net effective porosity above the oil/water contact as identified for this pool.

The significance of this exhibit, again it shows reservoir separation from the Jenkins-Devonian Pool to the Jenkins-Northeast Devonian Pool.

Q. There's also DST pressure information on this exhibit?

A. That's correct. Each of the Devonian penetrations in this area have been posted, with

the Devonian drill stem test data to each well. And the significance of that is, it shows that the wells that are currently producing in the Jenkins-Northeast Devonian Pool have very similar pressures to the other Devonian wells in the area.

Q. This exhibit again contains the trace for your cross-section?

A. Yes, it does. It's, again, labeled A - A', west to east.

Q. Let's go to that cross-section. Would you review the information on this exhibit for Mr. Morrow?

A. Yes. This is Exhibit 4. It's a structural cross-section across the #1 well, Jenkins-Devonian Pool, and across the Jenkins-Northeast Devonian Pool. This cross-section is hung on a datum of minus 8,000 feet.

It shows structural separation from the Jenkins 1 well, Jenkins-Devonian pool, and also has the most recent well posted on this cross-section, and it's the third wellbore from the right. That's the Maralo Bonds No. 1, drilled as a sidetrack directional well, as a

reentry of an original Hanson No. 1 Bonds.

This well is a Devonian completion that indicates that this Devonian Pool in question has, as our best estimate, between a 40-foot and a 60-foot oil column. This well also establishes that we have a very good Devonian reservoir present.

Q. This well was, in fact, drilled after the temporary pool rules was promulgated?

A. Yes, it was. That's right.

EXAMINER MORROW: Which one is that, now?

THE WITNESS: It's the third well from the top, sidetracked hole, labeled "Devonian completion," and it's highlighted in green.

Q. Mr. Lough, what geologic conclusions can you reach from your study of the area?

A. That the Jenkins-Northeast Pool is a separate reservoir from the Jenkins-Devonian Pool. It's a separate structure and is separated stratigraphically from the Jenkins Pool as a result of the structuring.

Q. In terms of the geologic characteristics of the pool, is it similar to the other Devonian reservoirs in this area?

A. It is.

Q. Will Maralo be calling an engineering witness to review the engineering aspects of this application?

A. Yes.

Q. Were Exhibits 1 through 4 prepared by you?

A. Yes.

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

EXAMINER MORROW: 1 through 4 are admitted.

MR. CARR: That concludes my direct examination of Mr. Lough.

EXAMINATION

BY EXAMINER MORROW:

Q. I was looking at the cross-section and wondering about the lows and highs between your control points there and how you--I assume you tied that in some way with the structural control? Is that what you did?

A. Yes, sir, we did. The isopach map and the structure map are constructed from both geological and geophysical data.

Q. So these lows between wells are taken off of here and transferred over to your cross-section?

A. That's correct. Yes, sir, they are. The line of section follows the structure map.

Q. Will the next witness give us information about the quality of the sidetrack hole, and how much it's produced?

A. Yes, sir, he will.

EXAMINER MORROW: Thank you, sir. We appreciate your testimony.

MR. CARR: At this time we call Richard Gill.

RICHARD GILL

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

Q. State your name for the record, please?

A. My name is Richard Gill.

Q. Where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. By Maralo, Incorporated.

Q. What is your current job with Maralo?

A. I'm the division petroleum engineer.
Q. Have you previously testified before the Division?
A. Yes, I have.
Q. You also testified in the original case that resulted in temporary rules for this pool?
A. Yes, I did.
Q. At the time of that testimony, were your credentials as an expert witness in petroleum engineering accepted and made a matter of record?
A. Yes, they were.
Q. Are you familiar with the application filed in this case?
A. Yes, I am.
Q. Are you familiar with the Northeast Jenkins-Devonian Pool and have you made an engineering study of the pool?
A. Yes, I have.
MR. CARR: Are the witness's qualification acceptable?
EXAMINER MORROW: Yes, sir.
Q. Mr. Gill, have you prepared exhibits for presentation here today?
A. Yes, I have.

Q. Let's go to what has been marked Maralo Exhibit No. 5, and I would ask you to identify that and review it for Mr. Morrow.

A. Exhibit No. 5, there are three different pages here, and it starts off with some oil in place calculations for a couple of the surrounding fields or the nearby Devonian fields.

I did this in a effort to try to determine what would be a decent recovery factor for the production in the area. The data for both of these fields, the Crossroads South Field and the Bough Field, were data presented in hearings to the Commission for field rules for those two fields.

Running through the calculation of these, I found, based on the total field recovery to the oil in place recovery factor, of around 40 to 42 percent would be pretty decent.

The second page was stuff presented at the original hearing we had on this field on the Barnes 20 No. 1, which is the first well drilled, and I ran cases where I had assumed a productive acreage of 40 acres and came up with an oil in place of 111,000 barrels.

Applying the 42 percent recovery factor, I came up with an ultimate recovery of almost 47,000 barrels under that 40 acres.

Looking to see what it would do under an 80-acre proration unit, I came up with oil in place of 290,000 barrels. Applying the same recovery factor, I've shown an ultimate recovery of almost 122,000 barrels.

Q. And the last page of this exhibit?

A. The last page is the oil in place calculations I did on the Bonds No. 1, the last well we drilled. I ran those strictly on an 80-acre basis and, using the net pay thickness off the isopach and whatnot, came up with an oil in place of 894,000 barrels.

Using the same recovery factor of 42 percent, I show an estimated ultimate recovery of 375,000 barrels for that well.

Q. Let's move now to Maralo Exhibit No. 6 and review this for the Examiner.

A. Exhibit No. 6, the first page of that is just the production curve on the Barnes 20 No. 1. I've pencilled in our predicted decline rate of 18 percent on that curve.

The second page is the production

history on the Bonds No. 1, again, with the production decline rate drawn on.

The third page is just tabulated production for the field. It shows the Barnes No. 1 being in production in September of 1992, to date, has produced 14,500 barrels of oil.

The Bonds No. 1 came on production in April of 93, and through March of 94 has produced almost 98,000 barrels; currently producing about 250 barrels a day.

Q. And this is the sidetrack well?

A. The sidetrack well, right. The next page shows our decline curve analysis on the Barnes 20 No. 1, where I took the initial rate of 26 barrels per day and took it down to economic limit at the decline rate shown on the production curve, and came up with a remaining recovery of 38,600 barrels. Add that to the 9,000 barrels its already produced, it shows a total recovery of about 47,400 barrels.

The last page is the decline curve analysis on the Bonds which again, starting at the current rate of 250 barrels a day and taking it to economic limit at the decline rate shown on the production curve, I come up with the

remaining recovery of 310,800 barrels. Add that to the 98,000 barrels it's already produced, it shows it's going to produce an ultimate 408,574 barrels.

The significance of that, comparing that to the oil in place calculations, it shows that the Bonds, based on decline curve analysis, will produce actually a tad bit more than what we're showing an 80-acre drainage would be for that well at that location.

Q. All right. Would you identify Exhibit No. 7.

A. Exhibit No. 7 is just a little bit of pressure data that we had. The initial bottomhole pressure for the reservoir we determined from the drill stem test on the Barnes 20 No. 1, showed a bottomhole pressure of 4807 pounds.

We were unable mechanically to run a drill stem test in the Bonds No. 1, the sidetracked well, but we recently ran a shut-in bottomhole pressure in that well, that showed a current bottomhole pressure of 4699, which shows only a little over a hundred pound draw-down from the original bottomhole pressure from the field.

The current bottomhole flowing pressure in the Bonds No. 1 is 4633, which is only 66 pounds less than the bottomhole shut-in pressure, which is showing us we have an excellent reservoir capable of a tremendous amount of production.

The flowing bottomhole pressure is only 66 pounds less than the bottomhole shut-in pressure on the Bonds No. 1 which, to me, indicates we have a very prolific reservoir that is nowhere near being depleted at this point after almost a hundred thousand barrels of production, indicating that we should surely produce as much as we're predicting.

Q. Are you able to make a recommendation or estimate of what the average wells in this pool should drain, in terms of total number of acres?

A. I think the wells in the better part of the reservoir, like the Bonds No. 1, should easily produce 80 acres. The wells downdip somewhat will have water problems and may only drain as little as 40 acres. But the bonds No. 1, I think, all the evidence proves it will certainly drain 80 acres.

And I think we have several other locations that should be high enough that they'll drain 80 acres as well.

Q. Since temporary rules were adopted, you reentered and completed the Bonds?

A. That's right.

Q. What are your future development plans?

A. Our immediate plans will be for a well just north of the Bonds, an exploration unit north of the Bonds. And then, of course, depending on results there, the next location, I think, would be north of that, in the next section north, and then possibly there may be one to the section east of the Bonds as well.

Q. This is based on an assumption that you'll be developing the pool on an effective 80-acre pattern?

A. Right.

Q. Do you, in your opinion, Mr. Gill, have sufficient information now to make a recommendation to the Commission for permanent rules for the pool?

A. Yes, I do. I think the performance of the Bonds No. 1 certainly is an indication that drainage of 80 acres won't be a problem for this

field.

Q. In your opinion, would 40-acre development result in the drilling of unnecessary wells?

A. Absolutely. You would be spending twice as much money to get the same reserves.

Q. In your opinion, will approval of the application and continued development of the Northeast Jenkins-Devonian Pool, be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A. Yes, I do.

Q. Were Exhibits 5 through 7 prepared by you?

A. Yes, they were.

MR. CARR: At this time, Mr. Morrow, we move the admission of Exhibits 5 through 7.

EXAMINER MORROW: 5 through 7 are admitted.

MR. CARR: That concludes my direct examination of Mr. Gill.

EXAMINATION

BY EXAMINER MORROW:

Q. Mr. Gill, on Exhibit No. 5, on the first page, did you take the total recovery from

these other pools and then just--well, go through that again.

A. The data for these other fields I took was from the data they presented at the hearing for their field rules, the public data presented. Based on that number, I calculated the oil in place for those fields, and then divided that into the actual recovery for the fields, and came up with some sort of recovery factor.

Q. That's what's been recovered to date, then?

A. Right. I think these fields are both pretty late history kind of fields, so that's pretty much what has been produced.

Q. On the next page, on the Barnes 20 No. 1, the two calculations are just based on an assumption that you would drain either 40 or 80, is that right?

A. That's right.

Q. And you've got less net pay where the well is drilled than you have on the other half-section or quarter-section?

A. Yes, sir.

Q. So this would assume this one well

would drain the entire 80, and if you had to go to 40-acre spacing, you would have to drill another well to get the drainage, is that right?

A. That's right.

Q. Why do you think it would drain 80 as well as two wells would drain 80 acres?

A. On the Barnes 20 No. 1, I believe that, based on the structure, almost 40 acres of that is probably nonproductive. It's getting downdip.

On the production tabulation, you can see it's making water at a rate of nearly 40 barrels a day, and has made water since the initial completion. So we know we're right at or very close to the oil/water contact.

Q. Your decline curve analysis apparently indicates it won't even drain 40 acres?

A. I think, based on our calculations, it will probably drain just right at 40 acres. The oil in place calculation came up with 46,900, and the decline curve came up with 47,700, but that's due to the other part of that 40 acres being downdip, and it would be wet.

Q. So, the other part of the 40 acres shown on Exhibit 5, or the other part of the 80

acres, rather, is shown as being productive but it's really not productive?

A. At this location it's not. That's right.

Q. Is there an active water drive in the pool?

A. That's what most people claim the Devonian is. Most people say it's an active water drive. There's definitely water encroaching from the bottom.

Q. Has that served to keep your pressures up?

A. I think to a big degree it will. You'll see some decline in pressures but, for the most part, you won't see a big decline.

EXAMINER MORROW: All right. Thank you, Mr. Gill.

MR. CARR: That concludes our presentation in this case, Mr. Morrow.

EXAMINER MORROW: Case 10970 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. 10670, heard by me on June 9 1994.

Examiner
Oil Conservation Division

NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10670

IN THE MATTER OF:

The Application of Maralo, Inc., for Pool Creation, Special Pool Rules and a Discovery Allowable, Lea County, New Mexico

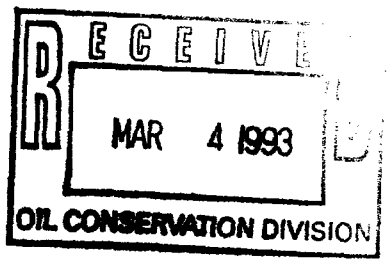
BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

February 18, 1993



REPORTED BY:

CARLA DIANE RODRIGUEZ
Certified Court Reporter
for the State of New Mexico

ORIGINAL

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
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
BY: **WILLIAM F. CARR, ESQ.**

I N D E X

E X H I B I T S

EXAMINER STOGNER: Call next case, No. 10670.

MR. STOVALL: Application of Maralo, Inc., for pool creation, special pool rules, and a discovery allowable, 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 & Sheridan. I represent Maralo, Inc., and I have two witnesses.

EXAMINER STOGNER: Are there any other appearances?

Will the witnesses please stand to be sworn at this time.

[And the witnesses were duly sworn.]

EXAMINER STOGNER: Mr. Carr?

MR. CARR: At this time we would call Shane Lough.

SHANE LOUGH

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

Q. Will you state your name for the

record, please.

A. Carl Shane Lough.

Q. Where do you reside?

A. I reside in Odessa, Texas.

Q. By whom are you employed?

A. Maralo, Incorporated, in Midland, Texas.

Q. What position do you hold with Maralo?

A. Senior staff geologist.

Q. Mr. Lough, have you previously testified before this Division?

A. No, I have not.

Q. Would you briefly summarize your educational background and review your work experience for the Examiner?

A. Uh-huh. I hold a B.S. degree I geology from the University of Texas in the Permian Basin. I've worked my entire career in Midland, Texas, as an exploration geologist. I've worked for Pennzoil, Southland Royalty, Williams Exploration. I've consulted for two independent companies in Midland, and I currently work for Maralo, and I began my employment with Maralo in 1990.

Q. Since your graduation, at all times you

have been employed as a petroleum geologist?

A. That's correct.

Q. Does the geographic area of your responsibility for Maralo include the portion of Southeastern New Mexico which is involved in this case?

A. Yes, it does.

Q. Are you familiar with the application filed in this matter on behalf of Maralo?

A. Yes.

Q. Have you made a geological study of the area that is the subject of this case?

A. Yes.

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

EXAMINER STOGNER: Mr. Lough is so qualified.

Q. Would you briefly state what Maralo, Inc., seeks in this case?

A. Maralo is here to request a new pool creation, with special pool rules establishing 80-acre spacing, for Maralo's initial well in this prospect; the 80-acre unit being the east half of the northwest quarter of Section 20,

Township 9 South, Range 35 East, Lea County.

Q. In what formation are you proposing the pool be created?

A. It's for the Devonian.

Q. Have you prepared certain exhibits for presentation here today?

A. Yes, I have.

Q. I would first like to direct your attention to what has been marked Maralo Exhibit No. 1. I would like you to first identify this exhibit, and then review it for the Examiner.

A. This is a regional location plat showing three analogous fields to our proposed pool creation, with our proposed pool being located in the northwest portion of the map.

Highlighted are three analogous fields being to the southeast, Crossroads South, toward the northwest near the center of the map, Crossroads West, and toward the north/central portion of the map, the Bough-Devonian fields.

Q. We also have a well on the extreme western portion of the plat. What field is that in?

A. That's the abandoned Jenkins pool.

Q. When was that developed, approximately?

A. It was drilled and completed in 1963 and produced approximately 10,000 barrels of oil.

Q. If we look at the other Devonian fields depicted on Exhibit No. 1, starting in the southeastern portion of the plat, what is the approved spacing for the Crossroads South?

A. Crossroads South has approval for 80-acre spacing.

Q. If we go to the Bough field in the north, is that also 80-acre spacing?

A. It has also been approved for 80-acre spacing.

Q. What is the status of the Crossroads West pool?

A. The Crossroads West pool was never presented for 80-acre spacing. However, it was effectively drilled on 80-acre spacing.

Q. Do you know what the pool boundaries are for that pool?

A. The pool boundaries are the east half of Section 31 and the northeast quarter of Section 6.

Q. Was that all developed by one operator, did you say?

A. It was, yes.

Q. Let's move now to Maralo Exhibit No. 2. Could you identify that for Mr. Stogner?

A. This is a land plat indicating Maralo's requested pool boundary, highlighted in a red outline, and showing Maralo's lease position on this prospect.

Q. All right. If we look at this exhibit, there are a number of leases shown that surround the proposed pool. Who owns those leases?

A. Maralo, Incorporated, owns all of these leases shown on this map.

Q. Are there any other Devonian operators in the pool or within a mile of the pool boundary?

A. There are not.

Q. We have well spots all over this exhibit. Could you just summarize what formations we're talking about and the status of these wells?

A. Virtually all of the abandoned oil well locations are Bough formation abandoned oil wells. There are two abandoned gas wells in Section 16 that are abandoned San Andres gas completions.

Q. Are all the wells shown on this map or

plat, except the subject well, either plugged and abandoned wells or dry holes?

A. They are. With the exception of the Amerada #1 Anderson located in the northwest of the northeast of Section 30. That well is an abandoned Devonian well and has been plugged back to the San Andres and is inactive but has not been plugged.

Q. The well that Maralo has completed in the Devonian is the #1 well which is located in Unit C of Section 20?

A. Yes, it is.

Q. Let's move now to Maralo Exhibit No. 3. Would you identify that for Mr. Stogner?

A. This is a structure map that I have constructed on the top of the Devonian dolomite, base of the Woodford shale. Again, this map covers the Crossroads-West Field, the Bough-Devonian Field, the now abandoned Jenkins-Devonian Field, and our subject well.

Q. Now, the green area indicates what?

A. The green area indicates what we see--the data we have acquired as the productive boundary of this pool.

Q. Using the structure map, Mr. Lough,

could you review for the Examiner Maralo's plans for the development of this Devonian field.

A. Yes. We currently--we have completed the Maralo Barnes 20 #1, which is the subject well. We currently have reentered the Hanson Bonds, which is located in the southeast of the northeast, and are sidetracking that well for an anticipated Devonian completion.

We have what we anticipate, if each step that we take on this prospect is successful, we have, in addition to the well we're currently operating and reentering and sidetracking, we feel like if it's successful, we should have potentially three additional wells to be drilled on this field.

Q. And where are they?

A. One would be the north half of the northeast quarter of Section 20; a second or an additional location would be the southeast of the southeast quarter of Section 17. If successful, then we have a very strong potential to drill a well in the northwest quarter of the northwest quarter of Section 21.

Q. What is the status of the acreage under the present proposed 80-acre proration unit?

A. Maralo has the acreage leased, and it is fee ownership.

Q. And then you are sidetracking with the well in the southeast of the northeast of 20? You're taking that to the west?

A. That's correct.

Q. And what would be the acreage dedicated to that well?

A. It would be the lay-down 80.

Q. And what is the character of that land?

A. That land is leased by Maralo and is fee ownership.

Q. As to the north half of the northeast of 20, the character of that land?

A. That land is leased by Maralo, and it's a federal lease.

Q. What is the status of the land in the southeast of 17?

A. That is leased by Maralo and it is state land.

Q. And then also as to the northwest of 21?

A. That lease is held by Maralo and is state land.

Q. So, actually, if you are successful,

you would reach full development with five wells on 80-acre spacing?

A. That's correct.

Q. How does this Devonian reservoir compare, structurally, to the Jenkins Field to the south and the west?

A. The overall reservoir is similar. We feel like we have structural separation from the Jenkins pool, and we feel like we will ultimately be structurally high to that pool.

Q. Mr. Lough, when we originally filed this application, we were also seeking a discovery allowable. Does Maralo intend to pursue a discovery allowable?

A. Yes.

Q. Are you going to pursue the discovery allowable?

A. No. The discovery allowable we are not going to pursue. That's not what we're interested in.

Q. Let's go now to Exhibit No. 4. Would you identify that, please?

A. It's an isopach of the net effective porosity above the identified oil/water contact in the Devonian formation in the area of our new

pool creation. Again, this isopach shows that we should be--that we believe that we're separated from the Jenkins-Devonian pool located in Section 30 and, again, the proposed 80-acres are outlined in red.

Q. And, based on your porosity isopach, in terms of just overall position within this pool, how would you characterize the location of the initial well?

A. The location of the initial well is actually a marginal location in terms of structural position and porosity, location of porosity within this wellbore. The wellbore appears to be very near the oil/water contact on this structure, and we feel like subsequent wells, as indicated on this exhibit, will encounter improved porosity and structure.

Q. This exhibit contains information obtained from drill stem tests?

A. Uh-huh.

Q. Have you compared this data with the drill stem test information on the other Devonian pools in the area?

A. Yes. The pressures that we encountered from our drill stem tests in the Upper Devonian

in our well, are very, very comparable to drill stem tests in the Bough Field, the Crossroads-West Field and the Crossroads-South Field.

Q. Mr. Lough, you have a trace on this exhibit for a cross-section?

A. That's correct.

Q. You have just one copy of that?

A. Yes. We have one copy with us today, but we can provide additional copies.

MR. CARR: Mr. Stogner, this is a large exhibit. With your permission, could we put it up on the wall?

MR. STOVALL: This a full scale cross-section?

THE WITNESS: Yes, this is a full-scale, reasonably large cross-section.

EXAMINER STOGNER: With that, let's go off the record for about five minutes while you're hanging that up.

[A recess was taken.]

EXAMINER STOGNER: The hearing will come to order. Mr. Carr?

Q. (BY MR. CARR) Mr. Lough, would you now refer to what has been marked as Maralo Exhibit

No. 5, and you may want to go to the exhibit, and, simply, first identify it from the line of cross-section and then review it for Mr. Stogner.

A. Yes. This is structural cross-section A to A'. The beginning of the cross-section is in Unit D of Section 30 to the west, continuing east, north and east, to Unit E in Section 21.

The cross-section is presented for a number of reasons, one of which being that it is a cross-sectional view of the structure map that was presented earlier. We feel that we can indicate structural separation from the now abandoned Jenkins pool, and also the cross-section is showing what we believe to be the productive porosity in our requested new pool creation, with the Maralo Barnes 20 #1 located here, indicating that this well has approximately 16 feet of effective porosity above the oil/water contact.

The oil/water contact is identified by several drill stem tests within this overall area from numerous wells. We feel like we've got a fairly accurate oil/water contact predicted here. Our Barnes well appears to substantiate

that oil/water contact.

We also feel like subsequent wells drilled on this structure will encounter the reservoir structurally high, with resulting thicker porosity, resulting in anticipated commercial production. This wellbore is the Barnes 20 #1--

EXAMINER STOGNER: You're referring to the fourth well from the left?

THE WITNESS: That's correct.

A. The fifth well from the left is the well that Maralo is currently reentering and sidetracking and kicking approximately 300 feet to the west of the original wellbore, this wellbore having encountered a fault in the Devonian. The wellbore actually penetrated a fault in the Devonian.

Q. All right. Mr. Lough, could you just summarize the geological conclusions that you've been able to reach as a result of your study of this area?

A. We feel like we have identified a new pool, a new structural pool in the Devonian reservoir. Our initial well appears to have encountered the reservoir in a structurally low

position, with a resulting rather thin oil column, putting us close to the oil/water contact.

We feel like we have the potential for drilling four additional wells on this structure with the additional wells encountering the Devonian, significantly structurally high to our first well. And we feel like these subsequent wells, taken one well at a time, should result in significantly better production than what we have encountered in our initial well, being the Barnes 20 #1.

Q. Do the geological characteristics of this new Devonian reservoir compare favorably to the geological characteristics of the other Devonian reservoirs in this area?

A. From the data we have on this reservoir, it appears to be a typical Devonian reservoir for the Devonian in the northern portion of the Tatum Basin. We feel like we have a very comparable reservoir to the analog fields that we discussed earlier.

Q. These fields are developed either under 80-acre rules or on an effective 80-acre spacing pattern?

A. That's correct.
Q. Were Exhibits 1 through 5 prepared by you?
A. Yes, they were.
MR. CARR: At this time, Mr. Stogner, we move the admission of Maralo Exhibits 1 through 5.
EXAMINER STOGNER: Exhibits 1 through 5 will be admitted into evidence.
MR. CARR: That completes my direct examination of Mr. Lough.
EXAMINER STOGNER: Mr. Carr, I do have quite a few questions, and I want to defer some of them until I hear the next witness, the geological ones.

EXAMINATION

BY EXAMINER STOGNER:
Q. Referring to Exhibit No. 4 and, for that matter, Exhibit No. 3, you can kind of help me understand what kind of deposit this is in the Jenkins area. It appears to be pod-like. You'll have to go back to elementary geology. I'm an engineer.
A. Okay.
Q. Sort of get me to understand what kind

of deposits we have, what kind of environment we're seeing? I'll let you start with that.

A. Okay. The formation that we're looking at is the Devonian dolomite. The small structures that are shown on Exhibit 3 are the result of tectonic activities, faulting and compressional forces that created the structures that I have contoured as a structural representation of the fields and the structures.

It's a fairly contiguous formation in reservoir. The traps and resulting fields that are on this are formed as structural traps with oil/water contacts on each--separate oil/water contacts on each one of these fields.

When the small structures were formed, the resulting traps were formed. Oil migrated into the traps and filled each trap to a different spill point, and resulted in the oil/water contacts being present on each field and being at different elevations on each field.

Q. And, essentially, these elevation changes is what you're claiming separates the old Jenkins pool in Section 30 from your proposed area in Section 20, is that correct?

A. That's correct. Yes, it is.

Q. Now, looking over in Section 19, there appears to be a very small area there?

A. Yes.

Q. And there seems to be, looks like a Kerr-McGee well in there, with six feet of--

A. That's correct. That well appears to have potentially six feet of effective porosity above the oil/water contact.

The well was drill-stem tested above this porosity and was drill-stem tested tight. The well was then drilled deeper, below the oil/water contact, before a second drill stem test was conducted in the well, and that drill stem test recovered virtually all water.

I believe that there is probably a very thin oil column in that wellbore that was not effectively tested by DST due to the fact that they had drilled well into the water table before they conducted their drill stem test.

Q. You talked about the oil migration into this area. Would that have been considered one common source and supply moving into the area, each individual step? I guess the way I could visualize this is stepping stones being trapped in these small little trappings?

A. That's right. It was, over geologic time, it probably happened within a very narrow window, and it was the individual traps that were formed before the migration occurred that resulted in the individual accumulations that we see.

Q. Now, the small fault on the east side of Section 20, if I'm reading my map correctly, then, it really doesn't bisect or separate this little pod?

A. That's correct.

Q. It just seemed to upset it more than--

A. That's correct. That's exactly right. Had the Bonds well that penetrated that fault not penetrated it but had been drilled slightly to the west, we would have never seen the fault.

EXAMINER STOGNER: Like I say, Mr. Carr, I have a lot more other questions, but I want to let your engineering witness go ahead and testify at this time. Then I can probably direct my questioning to either one of them at that time.

MR. CARR: At this time, Mr. Stogner, we'll call Richard Gill.

RICHARD A. GILL

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

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

A. My name is Richard Alan Gill.

Q. Where do you reside?

A. I live in Midland, Texas.

Q. By whom are you employed and in what capacity?

A. I'm a division engineer for Maralo, Incorporated.

Q. Mr. Gill, have you previously testified before this Division?

A. No, I have not.

Q. Could you briefly summarize for Mr. Stogner your educational background and then review your work experience?

A. I got a degree in petroleum engineering from Texas Tech University in December of 1980.

I went to work for Amerada Hess Corporation here in Midland for a couple of years, and have been at Maralo since 1983.

Q. Does your geographic area of responsibility with Maralo include the portion of Southeastern New Mexico involved in this case?

A. Yes, it does.

Q. Are you familiar with the application filed in this case on behalf of Maralo?

A. Yes, I am.

Q. Have you conducted an engineering study of the proposed new pool?

A. Yes, I have.

MR. CARR: At this time, Mr. Stogner, we would tender Mr. Gill as an expert witness in petroleum engineering.

EXAMINER STOGNER: Mr. Gill is so qualified.

Q. Let's refer to what has been marked as Maralo Exhibit No. 6. I would ask you to first identify this exhibit and then review it for Mr. Stogner?

A. Exhibit 6 is some original oil in place calculations that I ran not only on the field in question but also on a couple of the offset fields that were mentioned before.

As you can see on the first page, there were some calculations done on the

Crossroads-South Field and the Bough Field, these two both being set up on 80-acre spacing already.

The purpose of these were mainly to try to determine what kind of recovery factor it looked like the fields were producing. Running through the calculations, it looks like the Crossroads-South Field had 6.8 million barrels in place, produced a little over 3 million barrels, and recovered about 44 percent of the oil in place.

The Bough Field looks like it had about 9.8 million barrels in place, recovery was 3.7 million barrels, for a recovery factor of 38-1/2 percent.

Q. What is the source of the information that you've utilized in preparing this exhibit?

A. This information came from the published data in the Roswell Geological Society Symposium, with a slight alteration in the Bough Field. The study there was done when there were only two wells, two additional wells were drilled, so the productive acreage for this was expanded a little bit from the published data.

Q. Let's go to the next exhibit?

A. All right. The next page is called the Barnes Area Field, for lack of a better name. That's the well we have producing out there now in this pool. Just arbitrarily using a 42 percent recovery factor between what it looked like the other fields were going to do, it looks like that field is capable of producing about 945,000 barrels.

Q. And if we look at the data you utilized in reaching this conclusion, your productive acres, that is from Mr. Lough's mapping?

A. Right. The isopach map that was presented, I guess Exhibit 4.

Q. And then the net pay thickness is, again, from his porosity isopach?

A. Right, the same exhibit.

Q. And the other figures are figures that you have drawn from the Roswell Geological Society Reports on offsetting fields?

A. Right.

Q. Let's go to the third page of this exhibit.

A. All right. On the third page I took the numbers strictly for the producing well that we have, the Barnes 20 #1. I ran a case where if

the well were on 40-acre spacing, where it would drain 40 acres, and ran a case if the well were to drain 80 acres.

It showed at 40 acres the well would effectively drain 47,000 barrels; on 80 acres it would drain about 122,000 barrels.

Q. Let's move from there to your decline curve analysis, Maralo Exhibit No. 7. I would ask you first to identify that and then review this for Mr. Stogner.

A. All right. Exhibit 7 is the decline curve on the Barnes State 20 #1. Attached to it is my analysis of the projected production based on that curve. The well doesn't have much production history to go by, but on the analysis, using the current rate, 28 barrels a day, and the economic limit of about five barrels a day, and a decline rate of 10 percent a year, it shows that the well will ultimately recover 86,000 barrels.

Q. So, when you compare this information from Exhibit No. 7 with the recovery figures that are shown using the different spacing scenarios for this well shown in Exhibit No. 6, what conclusion can you reach?

A. My conclusion is that this well will

effectively drain more than 40 acres. It won't drain totally 80 acres, the reason being the downdip location of the well. It's not in the structurally most advantageous part of the unit.

Q. If the subsequent wells in the field are drilled to the structurally higher positions to which they're projected, can you make an estimate for the Examiner as to how many acres these wells will be able to drain?

A. I think they'll easily drain 80 acres.

Q. If this application is approved and if 80-acre spacing is adopted, will this have any impact on the additional drilling in this area?

A. Yeah. Like Shane said, there's probably legitimately four more locations that could be drilled on the 80-acre spacing. On 40 acres, undoubtedly, in order to hold all the leases, there would probably have to be some wells that would have to be drilled that probably wouldn't be economic.

So the question becomes, I don't know whether we would drill them or not. It would really depend.

Q. In your opinion, would 80-acre spacing rules, at least on a temporary basis, be the most

efficient way to develop the reservoir at this time?

A. Yes, I do.

Q. If rules are adopted for a temporary basis, how long would it be until you would have more production information on this reservoir so that you could come back and seek the establishment of permanent rules?

A. I think we could probably get by with a year. Give us a year's production on the current well, we'll have the next well down here in the next month or so, and we possibly might have a third well drilling by then.

Q. And during that year you would be able to, more accurately, establish a decline rate for the field?

A. Right.

Q. In your opinion, will approval of this application and the establishment of a new pool in the Devonian on 80-acre spacing, be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A. Yes, I believe so.

Q. Were Exhibits 6 and 7 prepared by you?

A. Yes, they were.

MR. CARR: Mr. Stogner, at this time I would offer Maralo Exhibits 6 and 7.

EXAMINER STOGNER: Exhibits 6 and 7 will be admitted into evidence.

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

EXAMINATION

BY EXAMINER STOGNER:

Q. Just for clarification, I'm understanding that the discovery allowable request be dismissed at this time?

A. Yes, sir.

EXAMINER STOGNER: So, essentially, what we have left over now is 80-acre spacing and limited well location requirements?

MR. CARR: Yes, sir.

EXAMINER STOGNER: I really have no engineering questions at this time but, like I said, I still have some questions.

MR. CARR: Okay.

EXAMINER STOGNER: I'll throw them out, and whichever witness is more appropriate to answer it, please let me know.

Your application requests a 330-foot offset to the outer boundary of the spacing

unit. This is unusual for 80-acre spacing in that normally we have 150-foot limit radius within that center of either quarter-quarter section. Do you want to expand on that?

MR. LOUGH: I'm not sure, Mr. Stogner, what the question is in reference to.

EXAMINER STOGNER: Well, I'm referencing your application.

MR. STOVALL: Let me rephrase the question. Normally, when we set up the full 80-acre spacing in an oil pool, the well location requirements are that the well be within 150 feet of the center of the quarter-quarter section.

MR. LOUGH: Okay.

MR. STOVALL: And he's asking why you want the larger drilling window.

MR. LOUGH: No, that would be perfectly acceptable to us. We don't really need an exception to that.

MR. STOVALL: That answered a lot of questions.

EXAMINER STOGNER: It sure did. Let's talk about the old well back to the east there in Section 20, which would be affected, of course, by this ruling. What is its present status?

Could you give me a little history of the well, whichever one of you is more appropriate?

MR. LOUGH: Yes. Are we talking about--

EXAMINER STOGNER: The one that is being directionally drilled.

MR. LOUGH: That well was originally drilled in 1977 by Mr. Hanson, Hanson Operating. It was drilled to the Devonian and was plugged. The well was subsequently reentered by Hilliard Oil & Gas in 1979. An attempt was made to sidetrack the well by Hilliard, and they were unsuccessful, and the well was plugged a second time.

We recently, within the last two weeks, have started operations on that well in an attempt to sidetrack it and kick it to the west; so, currently the status of the wellbore is that it's plugged in the Devonian. We are currently drilling at about 9900 feet in the sidetracked hole in that wellbore.

EXAMINER STOGNER: When--and I'm going to ask some general questions of Maralo--when a prospective drilling track or operation is proposed by Maralo, who does it go through? Does

it go through the engineer? the geologist? Who makes the permit and such as that?

MR. LOUGH: Typically the geologist works up the prospect. It is run through the engineering department for their input and their expertise. We have a department in our company that files the permits, and once the permits are given, we have a drilling department that handles the actual staking of the well, spudding, the drilling of the well, the drilling operations.

EXAMINER STOGNER: So you wouldn't necessarily, being the geologist proposing either a reentry, sidetracking or drilling a new well, wouldn't really be aware of any rules and regulations pertaining to the offset locales or rules or regs, is that correct?

MR. LOUGH: That is correct. I wouldn't consider myself an expert or extremely knowledgeable about specific rules and regulations.

EXAMINER STOGNER: Who would that person be?

MR. LOUGH: Would it be Dorothea?

MR. GILL: Yeah, Dorothea.

MR. LOUGH: Dorothea Owens.

MR. GILL: She works that department for us.

EXAMINER STOGNER: And you said the well is being directionally drilled at this point?

MR. LOUGH: Yes, it is.

EXAMINER STOGNER: Or is it down?

MR. LOUGH: No, it's projected to go to 12,500 feet, and we're currently at about 9900 feet.

EXAMINER STOGNER: Has that directional drilling been authorized?

MR. LOUGH: Yes.

EXAMINER STOGNER: Do you remember the order?

MR. LOUGH: I can't say that I know the order, no.

MR. CARR: Mr. Stogner, we would be glad to provide you with the order number.

EXAMINER STOGNER: Okay. Like I said, I couldn't remember the authorization number on that.

Now, would you be aware or would she be aware of the 330 offset if this was spaced on 40 acres?

MR. LOUGH: I think Dorothea would be aware of that.

EXAMINER STOGNER: But you would not?

MR. LOUGH: Not necessarily, no.

EXAMINER STOGNER: If one violated that rule, Maralo would definitely feel the effect, I would assume?

MR. LOUGH: Yes.

EXAMINER STOGNER: Then I won't mention anything about the well in Eddy County, the Little Bear State Unit Well #1.

MR. LOUGH: Yeah, that's another--

EXAMINER STOGNER: Like I said, we won't mention that at this point.

If you'll get me the order number on the particular directional drilling.

MR. CARR: I will.

EXAMINER STOGNER: Is there a proposed pool name out there that Maralo has, or would you want us to leave that up to our district geologist in Hobbs?

MR. LOUGH: Given the option, we would like to provide a suggested name.

EXAMINER STOGNER: Well, what is it?

MR. LOUGH: Would it be necessary to do

that currently? Would it be more expeditious to do that?

EXAMINER STOGNER: It would be appropriate now, yes.

MR. LOUGH: I think the recommended name would be Highland Field.

EXAMINER STOGNER: H-I-G-H--

MR. LOUGH: H-I-G-H-L-A-N-D.

EXAMINER STOGNER: Where did you get that name?

MR. LOUGH: Just came to mind, basically. There's no topographic features out there to key off of, or anything like that.

EXAMINER STOGNER: There are no topographic features in Crossroads?

MR. LOUGH: Well, that hasn't been used. "Crossroads" has been used quite a bit out there for field names, and I would kind of like to get away from that.

EXAMINER STOGNER: Let's put it this way. Your suggestion has been brought to us and we will act appropriately.

MR. LOUGH: Okay.

EXAMINER STOGNER: I don't have any other questions of this witness or either one of

these witnesses.

Mr. Carr, anything further?

MR. CARR: Nothing further, Mr. Stogner.

EXAMINER STOGNER: Does anybody else have anything further in this matter?

If not, Case No. 10670 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. 10670 heard by me on 18 February 1993.

Michael E. Stogner, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, 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 March 2, 1993.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ, RPR
CCR No. 4