NEW MEXICO OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

CASE NOS. 10486 AND 10487

IN THE MATTER OF:

The Application of Meridian Oil, Inc., for a high angle/horizontal directional drilling pilot project, special operating rules therefor, a nonstandard oil proration unit, a special project oil allowable, and special GOR assignment, San Juan County, New Mexico.

BEFORE:

DAVID R. CATANACH

Hearing Examiner

State Land Office Building

June 25, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

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BY: **W. THOMAS KELLAHIN, ESQ.**

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EXAMINER CATANACH: Call the hearing back to order and call Case 10486.

MR. STOVALL: Application of Meridian Oil, Inc., for a high angle/horizontal directional drilling pilot project, special operating rules therefor, a nonstandard oil proration unit, a special project oil allowable, and a special GOR assignment, San Juan County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. KELLAHIN: Yes, sir. I'm Tom Kellahin on behalf of Kellahin, Kellahin & Aubrey, appearing for Meridian Oil, Inc.

Mr. Examiner, we would request that you consolidate for hearing purposes the following case, which is 10487.

EXAMINER CATANACH: And we will do just that. Can you call 10487?

MR. STOVALL: Is there any significance to the fact that neither of these are in bold on the docket this time?

This is also the application of Meridian Oil, Inc., for a high angle/horizontal directional drilling pilot project, special

operating rules therefor, a nonstandard oil proration unit, special project oil allowable, and special GOR assignment, San Juan County, New Mexico.

EXAMINER CATANACH: Are there any additional appearances in either of these cases?

You may proceed Mr. Kellahin.

MR. KELLAHIN: Mr. Examiner, if you'll delete from our shopping list the request for a gas-oil ratio assignment, that is no longer sought by the applicant in either of these cases.

I'd like to call Mr. Jim Hornbeck, Mr. Examiner.

EXAMINER CATANACH: Will the witnesses, please, stand and be sworn in.

[The witnesses were duly sworn.]

MR. KELLAHIN: Mr. Examiner, I'd like to present three witnesses. Jim Hornbeck is the first witness; he's the geologist; Eric Bauer is the drilling engineer for the horizontal aspects of the drilling; and Alan Alexander is the landman.

JAMES HORNBECK

Having been duly sworn upon his oath, was

examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Hornbeck, would you, please state your name and occupation.

A. My name is Jim Hornbeck, James Hornbeck. And I'm a senior staff petroleum geologist with Meridian Oil.

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

A. Yes, I have.

Q. Describe for us in a general way what was your involvement in the geology for the Black Diamond Com. 20-1 well and the Black Diamond 17-1 well?

A. I've been the project geologist with both of these wells from inception.

Q. What was the purpose of your project?

A. It was to delineate horizontal oil targets in the San Juan Basin.

Q. When we look at these two requests, what particular formation is the geologic target?

A. It is the Niobrara-Gallup interval.

Q. Have you as a geologist made a geologic

evaluation of the Niobrara for both of these wells?

A. Yes, I have.

Q. And based upon that study, have you reached a certain conclusion?

A. Yes, I have.

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

EXAMINER CATANACH: Mr. Hornbeck is so qualified.

Q. (BY MR. KELLAHIN) I'm going to refer to these as the 20-1 and the 17-1 just to shorthand so we can keep them straight. The 20 refers to a section number, does it not?

A. That is correct.

Q. And the 17 is a corresponding section number all within the same township and range?

A. That is correct.

Q. Let's turn to the first exhibit book for the 17-1. And perhaps the place to start is with the structure map that's behind the tab for Exhibit 5. This has got a lot of information on it, but what I want you to help me do is to take this display and before we talk about the structure map, let's use it as an area map to

help the Examiner orient himself as to what you're proposing to do in each of the sections.

A. Okay.

Q. Help us find Section 17 that's in the right township for the 17-1.

A. Both the locations for the horizontal -- proposed horizontal pilot projects are designated by a star.

MR. KELLAHIN: Just a minute, Jim. I can't hear over the confusion in the hall.

Q. 17.

A. The star in Section 17 in the northwest corner of Township 30 North, 15 West in San Juan County is the proposed location of the 17-1 well. And on the corresponding structure map for the 20-1, we see a starred location for the proposed location of the 20-1 well.

Q. We can move two sections to the south and find --

A. One section to the south.

Q. I'm sorry. One section to the south.

A. And find the starred location. This township is located adjacent to the very northwestern edge of the San Juan Basin. This structure map is contoured on the top of the

Gallup interval in the basin. The contour interval is 100 feet.

The closely spaced structure contours running approximately northeast-southwest through the very northeastern edge of this township identify the Hogback monoclinal flexure and both of our wells that we're proposing are down in the basin proper where dips are on the range of about 2 degrees to the due east.

Q. What are you trying to test with the pilot program for each of these two wells with a horizontal well in the Niobrara in this portion of the basin?

A. We would like to attempt to try and establish oil production out of a tight and fine grained sandstone equivalent of a better quality conventional sandstone reservoir that is productive to the due northwest in the Horseshoe-Gallup field.

MR. STOVALL: Mr. Kellahin, can I interrupt you just to get myself oriented? I see water flow down there. Is that the PNM powerplant?

THE WITNESS: That is correct, yes.

MR. STOVALL: Where is it in relation

to your proposed well?

THE WITNESS: The actual generating station is in the northeast corner of Section 20. And the surface mining operations for the Fruitland Coal which powers that generating station are located on the outcrop about due north-south from Section 9 down through about Section 28. And they are mining in an easterly direction down-dip into the basin.

MR. STOVALL: In 30-15?

THE WITNESS: That's correct, yes, the same township. So we are on the west of that entire operation.

MR. STOVALL: Right between them and the outcrop of the Hogback; is that correct?

THE WITNESS: That's correct. Right in there.

Q. (BY MR. KELLAHIN) Why is Meridian seeking horizontal wells in this particular portion of the basin to test the Niobrara?

A. Well, vertical wells drilled in and amongst this area have determined that the very porous and permeable sandstone reservoir that produces at Horseshoe-Gallup is not present. And in its place there is a very fine grained, very

low permeability reservoir that has had shows of oil when encountered by the drill bit, but does not recover suitable amounts of oil to make it a viable vertical target.

Q. Why then the possibility of a horizontal well?

A. We'd like to see if we can use the horizontal wellbore technology to effectively produce enough oil on a 320-acre spacing to open this area up to directional drilling and produce reserves at the present time that are uneconomical.

Q. For the 17-1 let's turn to the first display following Exhibit 2. When the well was still in the planning stage, the initial plan contained the possibility of four different possible azimuths or directions to the well and potentially encompassing four different possible orientations for the 320-spacing unit; right?

A. That's correct.

Q. As of today's hearing, have you narrowed the choices on which to propose the well in terms of its direction of lateral and the dedication of the spacing unit to that well?

A. Yes, we have. We have continued to

work the evaluation of the mechanics in the reservoir, and we have pretty much determined that our most likely azimuth direction would be due southeast within Section 17 as is portrayed on both of the montages on the wall, the exhibits there.

We feel that based on additional work our best chance of encountering the best interpretation of fracturing to help us produce oil out of those drill blocks would be in a southeast direction in Section 17 and also in Section 20 drilling to the northwest.

Q. May we now limit our application then for approval of a spacing unit for the west half of 17 for the 17-1 well?

A. Yes.

Q. Let's pursue that now with the horizontal display that you've put on the wall. That is a larger copy of the exhibit that's contained in the exhibit book following Exhibit 6.

A. Yes, that's correct.

Q. If you'll take my pointer and go to the 17-1, let's talk about that exhibit. What I'm asking you to help us find is, first of all,

let's look at the type log and have you help us locate this Niobrara that's the target.

A. All right. Our projected target within the 17-1 well is what I have called, maybe not very clearly, the water flow zone. Obviously we don't expect it to flow water, but geographically it's close to water flow in the San Juan Basin.

So the Niobrara section is right here. The gross interval is here. And the particular pay that we're going to target the most of our wellbore in is a basal sand within this water flow zone, which is colored in and stippled in yellow right here.

This well is the Harrington No. 1 in the northwest of Section 17. And it is located right here in the section.

Q. What's the status of the Harrington 1?

A. It was plugged and abandoned probably 15 years ago after producing a small amount of oil.

Q. And that was production out of the Gallup?

A. Out of the Niobrara zone, yes.

Q. Okay. Let's go to the center portion of the display and the upper square there where

you have an azimuth and you've got some cross lines. Describe for us your analysis by which you have made a determination of the azimuth for the well.

A. Well, I really think it would be to better first show this circular compass direction plot. And the only existing fracture orientation data that we have at the present time is some coal cleat direction at the Fruitland Coal mines that we were talking about earlier in the discussion.

And the face cleat direction of the Fruitland Coal in that particular mining operation has a face cleat direction of north, 43 degrees east, essentially in a northeast direction.

In the San Juan Basin face cleat directions have been used to determine the underlying deeper sections, primary open fracture direction. So we are assuming that at depth we will see a fracture orientation that will be fairly parallel to this dashed orientation right there.

Q. So then what do you achieve if your direction for your horizontal well is as you've

described it?

A. We gain the maximum advantage of intercepting natural fractures.

Q. All right. Let me have you return to your seat.

A. [Complied.]

Q. Let's turn now to the 20-1 display and look at the information following Exhibit No. 2. That application originally included an optional spacing unit and direction for that well. Has Meridian determined a direction for this well so that you can select one of these two options, or do you still need the options?

A. Our most probable direction of drilling the 20-1 well would be to the northwest in the west half allocation of Section 20.

Q. Is that a commitment you desire to make today, or do you want to retain the flexibility of making that choice in the field when you get ready to kick your well off?

A. We will be running in the well drilled in the south of Section 20 some additional fracture identification logs, which would give us an advantage in determining the preferred orientation of that wellbore. We would like to

keep open the two directions in the well in Section 20.

Q. Okay. Let's now have you go back to the board of the large display, which is contained as Exhibit 6 in this exhibit book for 20-1, and give us your explanation now as to, first of all, the location of the Niobrara in the type log and then follow with your discussion about the orientation of the azimuth.

A. The closest offset control that penetrates the pay for the well in Section 20 is the New Mexico Federal L-1, which is in the northwest of Section 29 and is posted -- the posted location is right here with respect to Section 20, this being Section 29 directly to the south. There is no wellbore in Section 20. This is the type log.

Q. You're looking at the center portion of the display for the 20-1. And within the area just to the southwest of the starting point for the horizontal well, you've located the gas well symbol?

A. That's correct.

Q. That's the location for the type log?

A. For the type log, yes. And this well

was drilled down through the entire Niobrara section, and an attempt was completed in this basal Tocito sand before the well was "P&A'd" as noncommercial.

And we are proposing to drill down and test and evaluate in our federal -- I'm sorry, in 220-1 well to examine the potential of an existing Tocito sand, as is drawn here on the right side of the wall display, plug back and then go ahead and drill our lateral again in the water flow zone, which is the upper Tocito equivalent at Horeshoe-Gallup.

Q. All right. The drilling program is slightly differenct between the two wells, and we'll get into that in a minute.

A. Okay.

Q. When we look at the geology, what you want to retain for the 20-1 is the flexibility of the alternative spacing unit --

A. That is correct.

Q. -- depending upon subsequent data to be derived when you drill the well?

A. That is correct. We will have the opportunity to run in the vertical pilot hole a fracture identification log, which will orient

the fracturing and give us a much clearer handle, another data set to understand the optimum direction to drill the wellbore.

And so we would most likely expect to drill the well in the northwest direction, but possibly based on the data we determined from the fracture identification log, FMS data, we possibly might want to reorient somewhere into Section 20 to the northeast.

Q. Why is Meridian proposing both of these wells at this time as pilot projects in this area?

A. Well, we just would like to evaluate the pay to see its potential and just don't think that one well will possibly prove or disprove the technology in the area.

Q. And with two wells then you have a greater opportunity to test the reliability of the information derived from the drilling of the wells?

A. Oh, yeah, absolutely.

Q. When we look at the geologic information in both of the packages, are we looking at the same structure maps with simply having you identify each well?

A. That is correct.

Q. Let's take for a moment the issue of the spacing unit. And if you'll turn with me, I'm in the exhibit book for 20-1. It's behind Exhibit No. 4.

A. Okay.

Q. There's a schematic. Describe for me from your perspective whether or not a 320 -- I'm sorry. These are 160. What did we do here? I'm confused.

A. Which ones?

MR. STOVALL: Do you want to go off the record for a second, Tom?

MR. KELLAHIN: Let me just take a second here.

Q. Okay. The Niobrara dedication of spacing unit is proposed for an oil well to which you dedicate 320 acres?

A. We are asking for that, yes.

Q. Without special approval for this nonstandard oil proration unit or spacing unit, for a vertical well you would have 40-acre spacing?

A. That's correct.

Q. Describe for us what it is that causes

you to believe that a 320-acre spacing unit is an appropriate spacing unit to dedicate to the horizontal well in order to test your concepts of this pilot project?

A. Well, historically in this trend 40-acre spacing units with vertical wells have been noncommercial. And we are striving to try and apply the horizontal wellbore technology to intersect as many natural fractures as we possibly can, which will allow us to produce ultimately enough reserves to make a viable project.

Q. All right. When you look at the half section for either 17 or 20, do you find as a geologist that there is sufficient reservoir continuity within the Niobrara so that each of the tracts within the 320, if not actually intersected by the horizontal lateral, are going to be in a position to contribute production to that wellbore?

A. Yes, we believe that's true. I've mapped that particular water flow pay through both of these drill blocks, and there's a net pay map included here in the exhibits that shows continuity through there.

Q. Let's start with the cartoon --
A. Okay.
Q. -- behind Exhibit No. 4 and at least schematically demonstrate to us what you're trying to achieve with this horizontal well that you don't get with a vertical well?
A. Well, referring to the illustration, the cartoon depiction is just trying to show probably a representation of the geologic factors affecting production within this area that we're trying to prove up horizontal technology in.

And a vertical well has a very slight chance of encountering enough natural fracturing in this tight reservoir to make it a commercial completion. It just will not be a successful venture.

The horizontal well with the proper orientation gives us a chance to connect up enough fracturing to drain a 320-acre drill block.
Q. When you factor in the economics or the cost of these type of wells, what is that component?
A. It's a very straight relationship. A vertical wellbore will average when tied in and

completed probably close to half a million dollars. We're looking right at a million dollars to drill a horizontal wellbore and have it hooked up and completed and ready to produce.

So for about twice the cost we're hopefully going to be able to produce substantially more hydrocarbons.

Q. And at this point for the status of development of the Niobrara in this area, the vertical well is not going to be an economic success?

A. There will not be any vertical wells drilled out there for the Niobrara.

Q. In order to exercise the opportunity to recover additional hydrocarbons out of the Niobrara, then application of the horizontal technology in your opinion is necessary?

A. It's essential.

Q. Let's go now to the isopach that you've just referred to. I think that's found behind exhibit tab 5. It's the second display. What are you showing us here?

A. This is a net isopach based on SP deflection, which shows the thickness through both Section 20 and Section 17. SP is a wire

line open-hole log that indicates permeability in a reservoir. And we see continuity of the reservoirs of about between 15 and 20 feet in both sections.

Q. Turn now to the same display, which is in the 17-1 exhibit package. It's the second document contained after exhibit tab 5. And describe that one for us.

A. It's the same parameters and same responses, and it's just the mapping of the pay through the northern section, Section 17.

Q. Have you located any geologic limitations that need to be taken into consideration by the drilling engineer when he designs the drilling and completion program for your well? Is there anything that makes the geology unusual?

A. No.

Q. Okay.

A. No.

MR. KELLAHIN: All right. That concludes my examination of Mr. Hornbeck, Mr. Examiner.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Hornbeck, both of these locations are just south of the Horseshoe-Gallup field?

A. No. They're actually southeast and into the San Juan Basin.

Q. How far away in terms of miles?

A. Let me -- where is that -- okay. I found it here. You can see the extent of Horseshoe-Gallup pool by the concentration of wells right up to and slightly onto the Hogback in Township 30 North and Range 16 West. That is all part of the Horseshoe-Gallup field.

Now, that field is up on a geologically different terrain called the Four Corners Platform. And what I have done is mapped and correlated that pay down into the deeper part into the actual San Juan Basin proper. And that is our target.

And in answer to your question, I'm sorry, we're probably three to four miles to the southeast of the production in Horseshoe-Gallup.

Q. And you said it was a different producing interval from the Horseshoe-Gallup that you're targeting here?

A. It is one of the two producing intervals at Horseshoe-Gallup field. But the

equivalent zone at the Horseshoe-Gallup field is much more porous and permeable and is better developed. So they are stratigraphically equivalent in age, but the rocks we're looking at are considerably tighter and less permeable.

Q. Your target is the Upper Tocito?

A. That is correct.

Q. You said that was the basal sand in the Niobrara?

A. It's one of the Tocito sands in the Niobrara. It is not the basal Tocito.

Q. As I understand it, the reason that Meridian wants to do a horizontal well is because of the nature of the formation, the low permeability and porosity in this area?

A. Yes.

Q. But you do have information that this interval is fractured naturally?

A. In cores that have been cut in wells drilled down in the basin where we have studied the rock section, there have been intervals of natural fracturing noted in the core descriptions.

Q. Is it my understanding that in Section 17 that the project will be confined to Section

17? Is that my understanding?

A. Yes, that's correct.

Q. So you no longer are asking for anything in Section 18?

A. That's correct.

Q. And that would be the west half of Section 17 -- would be all you would be asking for?

A. That's correct.

Q. Okay. Has Meridian attempted a horizontal well in this, not necessarily in this area, in this formation in the basin?

A. Yes, we have. There have been numerous wells drilled in the Niobrara section both in Huerfano and our Piedre Lumbre, which was a dry hole. This is our first attempt at horizontal technology application on this side of the basin.

All the interest has been to this date, except for one horizontal wellbore, they've all been drilled on the east side of the basin along that fairway. And we are looking at trying to open up this side of the basin to application of this technology now.

Q. How successful has Meridian been with

these type of wells?

A. We have one success in the Niobrara, which would be -- I don't have the exact number that have been drilled in the Niobrara. I'm going to guess we've drilled either three or four. Three? I believe three.

EXAMINER CATANACH: Okay. I believe that's all I have, Mr. Kellahin.

If you'll excuse me for a minute.

[A recess was taken.]

ERIC BAUER

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

EXAMINATION

BY MR. KELLAHIN:

Q. Would you, please, state your name and occupation?

A. My name is Eric Bauer. I'm a Drilling Engineer II for Meridian Oil.

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

A. Yes, I have.

Q. With regards to the 20-1 and the 17-1, what engineering functions did you provide?

A. I was the drilling engineer over both projects from the beginning.

MR. KELLAHIN: We tender Mr. Bauer as an expert drilling engineer.

EXAMINER CATANACH: Mr. Bauer is so qualified.

Q. (BY MR. KELLAHIN) Let me have you turn to the 17-1 exhibit package, and let's look at the information behind Exhibit 3. If you'll take a look at the second display, the drilling plan?

A. Right.

Q. Let's start with that well and have you describe for the Examiner what Meridian proposes to do to drill and complete the well.

A. Well, Mr. Examiner, our general well plan is to drill a 14-3/4 inch hole to 350 foot, at which time we will set 10-3/4 inch casing and be sure that our cement is back to surface.

From there we'll continue drilling with mud 9-7/8 hole to a measured depth of 4250 foot. And then we'll run some fracture identification logs, basically the FMS and another logging sweet, to help determine the azimuth and fine-tune it.

The planned azimuth in the No. 17 is

153 degrees. That's what the exhibits on the wall are based on, 153 degrees. But with this FMS data we'd like some flexibility to adjust that if need be.

Q. You propose to stay then within what footage setback from the outer boundaries of the west half of 17 for the lateral?

A. This would be 330-foot setbacks from both the south and the west. As illustrated in the final page in Exhibit 3, there's a plat.

Q. Once you have penetrated the Niobrara, the producing interval, if you will, in the Niobrara will comply with the drilling windows shown on this display so that the production interval will be set back from the boundary at least 330 feet?

A. Correct.

Q. And with that flexibility then you can take advantage of the additional data that helps you fine-tune the azimuth as you drill?

A. Yes.

Q. Complete your description of the well plan.

A. After we have determined our azimuth, fine-tuned it, if you will, we plan to run in the

hole with a building assembly and build at 12 degrees per 100 foot to 80 degrees, which is with mud.

We're also going to be running it with this building assembly an MWD and a gamma ray tool so we'll know our azimuth and our inclination at all times while drilling operations are being done.

At this point we're going to run in the hole with 7-5/8 inch casing and set that casing at 4318 measured depth. And we'll run after that time with a steerable motor assembly, not the fixed angle like before, and drill out with gas in our target zone approximately 4,000 foot. That will be drilled to approximately 90 degrees.

We're using this air/mist system. And that steerable assembly is at 4-3/4 inch AKO. That's designated on this general well plan. We'll also be running the gamma ray and the MWD system so we'll know exactly where we are where -- or the wellbore is at all times. And we'll also be utilizing a PDC bit.

Q. After you've drilled the well how do you propose to complete it for production?

A. We propose to run a 4-1/2 inch plugged and perf'd liner, and we will not fracture-stimulate this well. What we plan to do is run in with a mill and take off the plugs and then flow the well back.

Q. Do you want to discuss the proposed directional plan that's shown just ahead of the display you've just discussed?

A. Yes, I'd like to. This page on the Exhibit 3 is my proposed directional well plan. Some important points on it is the 3651, which is our kickoff point. And you'll notice that we'll be building at a rate of 12 degrees per 100 foot.

You'll also notice that the hard line, the 330 setback, if you will, is included in that. And we will set pipe to 80 degrees, which is our plan, to make sure that we are legal inside our producing formation.

Then we will continue that after that 80 degrees at 4318 measure depth and drill out with air at a build rate of approximately 2 degrees per 100 foot to 90 degrees for our target zone. And our target pay is 16 foot thick, which is noted on the right-hand side of the exhibit.

And we will continue drilling approximately 4,000 foot.

Q. If the well is successful and capable of oil production, are you requesting an oil allowable as being consistent with what the Division has previously granted other operators for horizontal wells whereby you total up, if you will, the standard oil proration units, multiply that by the number of spacing units, and that becomes your oil allowable?

A. Yes, we are.

Q. Anything else?

A. No, sir.

Q. All right. Let's turn now to the 20-1 and look at Exhibit 3 and have you describe the general well plan for the 20-1 wells.

A. Okay. The well in Section 20, the 20-1 is very similar to the 17-1. It has one major difference, and that would be that we plan to drill a vertical hole to a TD of 4250 foot. And that's where we will be analyzing our basal Tocito.

And after we've drilled our vertical hole and analyzed our basal Tocito, we'll be determining our azimuth and bedding direction

with again that same logging sweet. We'll plug back to our kickoff point and then kick off with our building assembly as we did in the 17-1.

Q. The essential difference then is the drilling of the pilot hole?

A. Correct.

Q. Why is that being proposed for the 20-1 well and was not utilized for the proposal in the 17 well?

A. It is my understanding from talking with our team geologist, Mr. Hornbeck, that there is a much greater chance of encountering the basal Tocito zone in Section 20 than there is in Section 17. And we'd like the opportunity to evaluate it and see if it does exist and is reservoir quality.

Q. Is your proposal for an allowable in the 20-1 case the same allowable that you would request being set for the 17 well?

A. Yes, that's true.

Q. All right. Anything else?

A. No, sir.

MR. KELLAHIN: That concludes our examination of Mr. Bauer.

EXAMINER CATANACH: Mr. Kellahin, is it

my understanding that the special oil allowable you're requesting would be eight times the normal allowable?

MR. KELLAHIN: Yes, sir. Uh-huh. The depth-to-bracket oil allowable on a 40-acre tract would be eight times that number.

EXAMINER CATANACH: In previous orders I believe the Division has also said that the number of spacing units that were penetrated by the wellbore would constitute the allowable.

MR. KELLAHIN: I need to look at the order you just did for the 218, Huerfano 218. And I'm not sure of the exact language that you've used.

It's our desire, and based upon Mr. Hornbeck's testimony, to have all eight of those spacing units, if you will, allowable factored into the project allowable because while they -- I guess there's two, the far northeast corner and maybe the far southwest corner were potentially not cut by the lateral. But they're in such close proximity to the lateral that if it's productive, they're going to contribute reserves. And by contributing reserves to the well, we ought to benefit by having an allowable

represented by that acreage. So that's our plan.

EXAMINER CATANACH: And that's your request?

MR. KELLAHIN: Yes, sir.

MR. KELLAHIN: The special gas-oil ratio is deleted, as I think I mentioned, and it would be the standard 2000 to 1 gas-oil ratio. We're not now seeking the earlier request, which was the 4500 to 1.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Bauer, in both of these wells in Section 17 and 20, are you sure that they're going to be drilled from the location that has been proposed?

A. Yes.

Q. The surface location?

A. The surface location is staked, and we are currently filing regulatory for those locations. They have been "arche'd" and approved by the BLM. We're just waiting on an APD.

MR. KELLAHIN: Archeological approval.

Q. (BY EXAMINER CATANACH) What is the distance that you propose to drill both wells

laterally?

A. The lateral distance is approximately 4,000 foot, as I indicated in the general well plan. At the bottom of the general well plans for both wells, the measured depth of the No. 20 would be 8490 measured depth. That would be our TD at measured depth.

And for the 17, that figure would be 8089 feet. This is going to vary. We will stay legal at all times in our formation. It varies a little bit with how far we could go due to our azimuth if we change it with the FMS. Our primary limit, of course, is the 330 setback.

Q. Is 4,000 feet the maximum you can go?

A. I believe the figure was 4064 feet.

Q. Okay. In both cases?

A. No. One is a little shorter than the other. The No. 17 is 4,000 foot. And the No. 20 is about 3950 foot.

Q. That's assuming that they're drilled in this direction that you've assumed?

A. Exactly. I want to stress our primary -- after we pick our azimuth and we will know the whole time during drilling operations where we are, our azimuth and our inclination,

that we will remain legal as per the rules.

Q. Okay. Have you been involved in drilling these types of wells in the past?

A. No, I have not. Well, I take that back. I have sat on a couple wells, but I have not designed them from the beginning and actually gone out and drilled them.

Q. The proposed design, is that in compliance with what Meridian has done in the past?

A. It's very similar to Piedra Lumbre well as well as the Huerfano Unit 300, the other two Niobrara wells that we have done.

Q. Has the drilling operation been successful in these other wells?

A. That rate -- I correct Mr. Hornbeck. I think it's fifty-fifty. We have one producing well, the Huerfano 300 and the Piedra Lumbre, as he indicated, is a dry hole out near Cuba.

Q. But the drilling itself has been successful --

A. Both cases the drilling was successful. I'm sorry.

EXAMINER CATANACH: I believe that's all I have of the witness.

MR. KELLAHIN: I call Mr. Alexander.

ALAN ALEXANDER

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

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Alexander, would you, please, state your name and occupation?

A. My name is Alan Alexander. I'm employed as a senior staff landman with Meridian Oil, Inc., in our Farmington, New Mexico, office.

Q. Mr. Alexander, on behalf of your company, have you made a review of the ownership of the spacing unit and compiled the ownership of the offsetting operators or working interest owners to your two projects here?

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Alexander as an expert petroleum landman.

EXAMINER CATANACH: He is so qualified.

Q. (BY MR. KELLAHIN) Mr. Alexander, let me have you turn to the 20-1 well first, if you will. Let's look at the information behind exhibit tab No. 2. In looking at Section 20, what is the ownership arrangement in Section 20

for the working interest?

A. In Section 20 Meridian has -- the federal lease consists of most all of the drill block. And we're currently dealing with an owner in the northeast quarter of the southwest quarter to complete the arrangement of that drill block, assuming we are going to drill the well on the west half.

Q. Have you tabulated the ownership that is required for notice purposes for the hearings?

A. Yes, I have.

Q. When we look at Section 20, have you determined whether or not there is any differences between what is displayed on this exhibit and what is now known to you about ownership?

A. Yes, there is one variance that we have just noted. We were in contact with Amoco Production Company who owns some interest more particularly in the southeast quarter of the southeast quarter of Section 20.

They had -- it was their belief through their title examination that they had all of the 40 acres leased when we contacted them. However, our more recent examination of that title in

working with Amoco to make arrangements for their acreage, we've learned that one-half of the minerals they did not lease through a title error.

And we currently have available a list of those 20 acres of mineral owners which we propose to the Commission that we readvertised to those parties to cure our notice problem with those parties.

MR. KELLAHIN: At this point, Mr. Examiner, I'd like to defer to Mr. Stovall on whether or not that is necessary. It appears that we have a glitch in our notice. Amoco believed that they were owner. We notified Amoco. Subsequent title work demonstrates that they didn't have all of the interest.

And we're prepared to continue and provide notice to those additional parties if the Division believes that that's required.

MR. STOVALL: This is in the southeast of 20?

THE WITNESS: The southeast quarter of the southeast quarter is my understanding, yes, sir.

MR. STOVALL: That's the one where you

still want to preserve the option to go either direction?

THE WITNESS: Correct.

MR. STOVALL: I think it's a wiser course of action to give individual notice to those parties. I'm assuming that what you're saying is that the failure to identify them was due to the title work and not the lack of title documentation on their part; is that correct? Somebody goofed in examining the title?

MR. KELLAHIN: Well, it was based upon our reliance from Amoco that they thought they owned it all.

MR. STOVALL: Right. I understand that.

MR. KELLAHIN: In checking behind that we found out that they were mistaken.

MR. STOVALL: In other words, it wasn't subsequently recorded documents or something? It wasn't a later acquired property?

THE WITNESS: No, sir.

MR. STOVALL: I think you're better off giving notice to them with that particular tract to ensure that you get their interests in it and not subject this to challenge after you've spent

a million dollars drilling a well.

MR. KELLAHIN: That's what we're proposing to do, Mr. Examiner. So subsequent to the hearing if we might continue it, it will be for the purposes of providing additional notices to those parties that are now known to us.

Q. (BY MR. KELLAHIN) Other than that are you satisfied that you've contacted the appropriate parties for notice purposes?

A. Yes, I am with regard to both wells other than that instance.

Q. And have you received any objection known to you from any of those parties notified?

A. We have not.

MR. STOVALL: Mr. Alexander, let me ask you another question then. Those parties, assuming you do an east half well, have not elected to join at this point then either, have they?

THE WITNESS: No, sir. We would neither contractually arrange for their joinder in the well, or we would come back before the Commission and arrange for joinder in the well.

MR. STOVALL: I definitely think you need to notify them then.

MR. KELLAHIN: Let's turn now to identify the notice requirements on the 17-1, Exhibit No. 2.

MR. STOVALL: Hold on just a second.

[A discussion was held off the record.]

Q. (BY MR. KELLAHIN) On 17-1 behind Exhibit No. 2, have you identified the appropriate parties to notify and cause notifications to be issued?

A. Yes, sir, I have.

Q. And again no objection from anybody that you're aware of?

A. We have not received any objections.

MR. KELLAHIN: That concludes my examination of Mr. Alexander.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Alexander, with regards to Section 20, you said you were negotiating with another person in another 40-acre unit?

A. Yes, sir. In the northeast quarter of the southwest quarter, there is an entity known as EP Operating, and we are currently negotiating with those people for their interest.

Q. How do those negotiations look?

A. Very favorable.
Q. So you're pretty confident that you will pick up that tract?
A. Yes, sir, either that or we will arrange for their participation in the well one way or the other.
Q. With regards to Section 17, does Meridian control the west half entirely?
A. Yes, sir, we do. It's a single federal lease.
EXAMINER CATANACH: I believe that's all I have.
MR. KELLAHIN: Mr. Examiner, Exhibit 8 in each case is our Affidavit of Mailing.
MR. STOVALL: What's Exhibit 7?
THE WITNESS: It's 7.
MR. KELLAHIN: How come I have an Exhibit 7 tab?
MR. STOVALL: At first I was thinking it was just my book that you deleted then I discovered it was all of them.
THE WITNESS: We didn't include anything behind 7.
MR. KELLAHIN: I stand corrected. We'll make those 7, if you please, with the

certificates. We move the introduction of Exhibits 1 through 7 in each case.

EXAMINER CATANACH: Exhibits 1 through 7 will be admitted as evidence.

And we're continuing 10486 for what period of time?

MR. STOVALL: Four weeks.

MR. KELLAHIN: It's going to have to be the 23rd of July before we can fix the notice.

MR. KELLAHIN: That's only in Case 10486.

EXAMINER CATANACH: 87 is all right?

MR. KELLAHIN: Yes.

EXAMINER CATANACH: Just so we don't make any mistakes in these orders, Mr. Kellahin, could you give me some roughs?

MR. KELLAHIN: Yes, sir, I'd be happy to.

EXAMINER CATANACH: There being nothing further, Case 10486 will be continued to the July 23 hearing and Case 10487 will be taken under advisement.

[And the proceedings were concluded.]

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10486 10487 heard by me on June 25 1988

David R. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I 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 JULY 7, 1992.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3