NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10481

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, and special project oil allowable, San Juan County, New Mexico.

BEFORE:

DAVID R. CATANACH

Hearing Examiner

State Land Office Building

May 28, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand 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:

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

I N D E X

E X H I B I T S

EXAMINER CATANACH: At this time we'll go ahead and call Case 10481.

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, and special project oil allowable, San Juan County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin & Aubrey appearing on behalf of the applicant. And I have three witnesses to be sworn.

EXAMINER CATANACH: Are there any other appearances?

Will the witnesses, please, stand to be sworn in.

[The witnesses were duly sworn.]

MR. KELLAHIN: Mr. Examiner, my first witness is Mr. Chip Head. He's a geologist with Meridian.

CHARLES F. HEAD

Having been duly sworn upon his oath, was

examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Head, for the record would you, please, state your name and occupation.

A. Yes. My name is Charles F. Head, and I'm a geologist for Meridian Oil in Farmington, New Mexico.

Q. And that's where you reside and are employed?

A. That's correct.

Q. Have you on prior occasions testified as a petroleum geologist before the Division?

A. No, I have not.

Q. Would you summarize your educational experience?

A. Yes, I have a bachelor of science degree with a major in geology from Fort Lewis College in Durango, Colorado.

Q. In what year did you obtain that degree?

A. 1978.

Q. Do you have any other degrees?

A. No, sir.

Q. Summarize your employment experience as

a petroleum geologist.

A. Okay. I worked for about eight years as a wire line engineer. And I've worked as a geologist for Meridian Oil since 1986.

Q. Describe for us in a summary fashion your particular involvement in this project on behalf of your company as a geologist.

A. I'm charged with geological responsibilities in the southwestern portion of the San Juan Basin, and specifically the Huerfano, greater Huerfano area, all formations. And as of the last year-and-a-half or so, I've focused my attention on the Gallup Producing Interval.

Q. What was the particular task assigned to you as a geologist for this application?

A. To evaluate the oil and gas potential for development in the Gallup Formation within the greater Huerfano area.

Q. Have you completed that geologic review and assessment?

A. It is still underway.

Q. At this point have you reached sufficient geologic conclusions to have certain opinions and recommendations for the Examiner

about this particular project?

A. Yes, I have.

Q. Have you been working in connection with any other technical personnel at Meridian?

A. Yes, I have. I've been working with engineering and land.

Q. Identify the specific individuals in engineering that have assisted you in this particular project.

A. Okay. We have -- the production engineer is a member of our team who is not here today -- I'm sorry, the reservoir engineer, and we have a production engineer who is present today, and also a drilling engineer who will be in charge of the mechanics of the high angle test.

MR. KELLAHIN: At this point, Mr. Examiner, I tender Mr. Head as an expert petroleum geologist.

EXAMINER CATANACH: He is so qualified.

Q. (BY MR. KELLAHIN) Mr. Head, before we get into the specific details of your work, tell us generally the conclusions that you have reached as a geologist that cause you ultimately

to recommend to Meridian that they undertake this horizontal project in the Huerfano unit.

A. During the course of my study, I found that the basal portion of the Gallup Producing Interval is prospective for oil and gas development. It's actually on the eastern edge of the Gallegos-Gallup Field.

And we feel that Section 29 is prospective for actually the Tocito member of the basal Gallup Producing Interval for a high angle or a horizontal test based on geologic characteristics, such as primary and secondary permeability and intergranular porosity.

Q. Let's turn to the exhibit booklet and find a locator map for the Examiner. I propose that we look at the first display following Exhibit No. 3.

There are two displays behind that tab, Mr. Examiner: One is a locator map in which a line of cross-section is drawn. It's followed by another locator map.

Let me direct your attention to Exhibit 3 that has the line of cross-section shown on it. And so that we can begin to understand exactly where you are with your project, help us

understand the pools or the fields in this immediate vicinity.

A. Okay. The subject well, the Huerfano 218 is in the eastern portion of the Gallegos-Gallup Field in Section 29. And it's offset to the south and east by a conventional recompletion which we did last year, the Huerfano 219.

Q. That's a recompletion from the Dakota up into the Gallup?

A. Yes, that's correct.

Q. The spacing unit for that well is what orientation?

A. That's a 320-acre spacing.

Q. And it's the south half of that section?

A. That's correct.

Q. Okay. What's the well to the west of the Huerfano 218, the 216?

A. The Huerfano 216 is another conventional vertical recompletion to the Gallup Producing Interval from the Dakota. The Dakota was abandoned.

Q. All right. If we look at the northern end of the display, there is penciled the No.

300. And an arrow points to a well symbol; it's just to the north and west of the star that shows the type log. What is the purpose of indicating the 300 number?

A. The 300 was actually a new drill, high angle test of the Gallup Producing Interval which we drilled last fall.

Q. Okay.

A. We penetrated the entire Gallup Producing Interval at a high angle in that well.

Q. All right. Let's look at the Huerfano 218, the subject well, in terms of the conventional vertical development that's occurred in the Gallup Field in this immediate area.

A. Uh-huh. You notice from the map that all of the Gallup completions are noted by hexagons and that the majority of them in the Gallegos-Gallup Field are well to the west of the Huerfano 218.

Those wells which do not have numbers above them are all vertical new drill locations. So actually development -- or I should say vertical conventional development of the Gallegos-Gallup Pool essentially ended to the west of the Huerfano No. 216.

Q. Do you have an explanation as to why the conventional vertical development in the Gallup terminates --

A. Yes.

Q. -- west of this location?

A. Yes. We feel that it's uneconomic from a new drill standpoint to the east of the existing development.

Q. As we move then to the sections in which the Huerfano 218 is to be developed, that is an area where you have to examine recompletions out of the Dakota or some other formation back up into the Gallup?

A. That's correct.

Q. Let's go to the second locator map behind Exhibit 3. The arrow on that display showing Section 29 in the northwest quarter identifies the proposed recompletion?

MR. STOVALL: You're looking at the first sheet?

THE WITNESS: It would be the first display on Exhibit 3, I believe.

Q. (BY MR. KELLAHIN) Mine was the other way around. I apologize for confusing you. It's the other display. I'm looking at Section 29.

A. Right.

Q. The arrow indicates then the subject well?

A. Yes, it does.

Q. Identify for us the other wells in the section.

A. The other wells within that section are the Huerfano Nos. 218-E, which is an infill Dakota location, and the Huerfano No. 219-E, which is another infill Dakota location in the southwestern portion of the section.

The Huerfano 219 was a, once again, it was a Dakota, original Dakota wellbore, which we recompleted to the Gallup Producing Interval last year. It's in the southeast.

Q. Why has Meridian selected the 218 as the well in this section to attempt the horizontal completion technology in the Gallup?

A. Because of the geologic characteristics within the basal Gallup Producing Interval as noted on wire line logs in the area in general and in the Huerfano 218 wellbore specifically.

Q. Is there any other well in Section 29 that you could use to test this technology on at this point?

A. No. The 218 is currently an NMOCD well that they have requested that we do something with that wellbore. And its location is such that a directional test -- it's in an ideal location for a directional test.

Q. All right. Let's look at some of the geology that you have prepared to support your conclusions about the horizontal wellbore. If you'll turn to Exhibit 4 and look at the display following that tab, identify that display for us.

A. Okay. That's a sand isopach map based on density porosity greater than 8 percent of the Tocito Producing Interval. Actually we divide the Tocito into two intervals, the uppermost being our primary objective in this project, which it has a very favorable depositional permeability and porosity. And it's noted on the cross-section on the wall over there as the upper orange interval.

The map that you're looking at is an isopach map of that upper orange interval. What we're trying to depict here with the isopach map is that along azimuth of our proposed horizontal sidetrack, the sand thickness, that upper sand

thickness is between 12 and 14 feet.

Q. Why have you selected this particular Tocito interval among all the intervals in the Gallup as the target formation?

A. We feel it's the only interval within the Gallup Producing Formation which is prospective for oil and gas development in this area.

The Gallegos Field actually to the west produces out of some upper fractured Niobrara sands. And that's one of the reasons why development ended to the west of here. Those sands we do not feel are prospective in Section 29 or in this eastern portion of the Gallegos trend.

Q. What is the reason for the orientation of this lateral in the direction that it's displayed?

A. We're very confident that our proposed azimuth will be perpendicular to the interpreted trend of natural fracturing throughout the area based on not only dip meter and microresistivity surveys, which we have studied extensively in the past, but also, if you'll note, the rose diagram, the red, rose diagram on the cross-section is

actually a frequency histogram of well developed natural fractures noted by a formation microscanner log run on a vertical Gallup well.

MR. KELLAHIN: For the record Mr. Head is referring to the large copy of the display. It's found in the exhibit book behind Exhibit No. 7, which is a reduced copy.

Q. Go ahead, Mr. Head.

A. We feel that -- we have a high degree of confidence that that is the dominant orientation of open natural fractures in this area.

Q. What do you as a geologist hope to achieve with this horizontal well that you have not been able to achieve with a conventional vertical well?

A. We hope to compare not only the results of this test with some nearby conventional Gallup recompletions recent, but also to test the lower Tocito Producing Interval for approximately perhaps 50 percent of the horizontal reach from the host wellbore.

The cross-section on the wall is actually an illustration of our intent to test that lower interval, which we feel is tight and

is noncommercial from a vertical completion standpoint. We have good evidence that it is fractured in the area and that we will optimize our chances of recovering hydrocarbons by opening several hundred feet of it to horizontal wellbore.

Q. Let's talk about structure in this area. If you'll turn to the display following Exhibit 5, identify and describe for us what, if any, structural significance there is to this particular project.

A. First of all, this is a geologic structure map hung on the top of the Juana Lopez. It's a very persistent marker on electric logs in the area. And the purpose of this is to show that there's very little regional dip to contend with.

We do have dense control in the area. And we feel that dip is almost negligible. In fact, we are going to be drilling essentially along depositional strike.

Q. This marker upon which you've hung the structure is located just below the Tocito?

A. Yes, sir. It's located about 200 feet below the Tocito generally.

Q. Structure is not of significance then in either the decision or the execution of the objectives of the project?

A. That is correct.

Q. Let's turn to the type log, which is the display following Exhibit No. 6. Identify and describe that for us.

A. Okay. First of all, I'll call your attention to the Juana Lopez, which was the datum that we used in the structure map. You'll notice it's at the base of the Gallup Interval. The Tocito is above an unconformity right above the top of the regressive Gallup Sandstone. That, of course, is our primary objective.

The upper part of the Gallup Producing Interval, which we are not interested in focusing on in this project, is illustrated in this type log, which is by the way, about, oh, probably about four or five miles to the north of Section 29, which you'll see on there.

Q. At this location this well is going to be subject to the Gallegos-Gallup Associated Pool Rules; am I correct in remembering?

A. Yes.

Q. You're in one of the associated oil and

gas pools, are you not?

A. That's correct. It would be the Gallegos-Gallup.

Q. What do you anticipate will be the classification of this well? Is this likely to be a gas well at this location, or is it likely to be an oil well?

A. Based on the area, I believe it will be -- I believe it will be a gas well.

Q. Okay. Are there any other geologic elements to the project that you've not yet described for us?

A. No.

Q. All right. Take us through, without describing the engineering details, take us through as a geologist what you think that this particular technology is going to help you achieve at this location, and let's use Exhibit No. 7 as your display.

A. The main interest to us in this project is that we will -- it will afford us the opportunity, as I mentioned before, to not only compare the results of this test to recent conventional recompletions in the area in close proximity to this, but it will also afford us the

opportunity to test the technology in an existing wellbore using slim-hole tools.

And we feel that it's a very efficient way to develop the resource, and economically it certainly makes sense. And --

Q. Give us a general idea of the economics involved with taking a well that you're going to recomplete out of the Dakota into the Gallup and using that technology to drill a horizontal well. What's the cost of this effort?

A. The cost, the gross cost of this effort will be around $330,000 as opposed to $250,000 for a conventional recompletion.

Q. All right. Now contrast that to the general range of a new drill for a horizontal well using this technology.

A. Total cost of a new drill test in this area would be upwards of $1.2 million.

One thing that I was going to mention is that one of the real attractions is the strategic value associated with this project, which is very evident across the southern portion of the Huerfano Unit.

As you move east from this location, the Tocito, the porous, impermeable Tocito

pinches out quite rapidly laterally. And the lower portion of the Tocito is pervasive throughout the area. And we feel that if we have encouragement in the lower portion of the Tocito in this wellbore, that it's going to give us quite a bit of steerage in future development, horizontal development.

Q. Is this the first of this type of pilot project, if you will, using this type of technology in the Huerfano Unit?

A. Yes, it is.

Q. What are the elements that characterize this as being different from the other horizontal or high angle drilling that Meridian has done in this area?

A. First and foremost, this is a high angle sidetrack out of an existing wellbore, as opposed to our high angle test from last year, the Huerfano 300, in which we tested the entire Gallup Producing Interval at a high angle.

This project we will focus on the basal Gallup. It will also afford us the opportunity to essentially open-hole DST both Tocito intervals and also, to a lesser extent, the upper what could be fractured Niobrara Interval.

Q. To orient us to Exhibit No. 7, the Niobrara is going to correspond to what is identified as the Gallup Interval A, B, and C on your display?

A. That is correct.

Q. All right. Let's go back to some of the schematics and have you help explain those. Exhibit 1 is the application itself. If you'll turn to Exhibit 2, let's look at the displays at that point. The first display, would you identify and describe that for me?

A. That's just a location plat of where the existing Huerfano 218 wellbore is in the northwest-northwest of Section 29.

Q. Okay. And turn the page and identify and describe the next display.

A. This is a schematic of our intent in the Huerfano 218.

Q. All right. And you've more completely described that on the following Exhibit No. 7?

A. That's correct.

Q. Let's turn the page and look then at the next display, figure No. 3. Identify and describe this display.

A. Okay. That's what we call azimuthal

plot showing our intended angle.

Q. Your proposal is to have yourself confined to a drilling window that would have side boundaries of 790 feet from the outer limits of the spacing unit?

A. That's correct.

Q. And your intent then is to remain confined within the producing interval of the Gallup so that you honor those setbacks?

A. That's correct.

Q. Let's look at the next display, the figure following that last display. Again this is just a cartoon or a schematic demonstrating some of the elements of the horizontal well?

A. Right.

Q. There's something a little different here. Exhibit 7 does not show the balance of the vertical well below the kickoff point, and this figure does. Do you see what I'm seeing below the curve?

A. Yes.

Q. The wellbore extends -- that's the extension down into the Dakota, is it not?

A. Right, that's correct. We intend to abandon that interval.

MR. KELLAHIN: Okay. That concludes my examination of Mr. Head, Mr. Examiner. We would move the introduction of Exhibits 1 through 7.

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

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Head, it's my understanding that the main producing interval in the Gallup associated pool is the Niobrara to the west of here?

A. That's correct.

Q. And does the Niobrara pinch out, or do you lose porosity in that zone as you go east?

A. As you go east, the lower portion of the Gallup Producing Interval or Tocito, if you will, does become tighter, much thinner in nature.

And also the Niobrara B interval, which is productive in the main portion of the Gallegos trend is not prospective in the eastern portion we feel from wire line data.

Q. You talked a little bit about well No. 300. That was a high angle well?

A. Yes, sir. That was a high angle new

drill we drilled last fall. It was a high angle test of the entire Gallup Producing Interval.

Q. Where is that well located?

A. That well is located approximately, if you'll refer to Exhibit 3, page 2 of Exhibit 3, it's approximately five miles to the north-northwest.

Q. How successful was that well?

A. It was very successful within the Tocito Interval. We had a gauge on that well of 18 million a day, absolute open flow. And it's currently restrained right now.

Q. Is that just from the Tocito Interval?

A. We believe that the majority of that gas is from the Tocito. Up until we intersected the Tocito, we were gauging approximately 150 Mcf a day and maybe 5 barrels of oil a day.

Q. You mentioned something about OCD has directed you guys to do something with well No. 218?

A. That's correct.

Q. What's the situation with that?

A. The well has been blind-plated for a couple of years. And my engineering teammates were notified that the NMOCD had identified that

as a candidate for some sort of remedial work.

Q. The well No. 218 will be the first Gallup test in the north half of that section?

A. That's correct.

MR. KELLAHIN: It will be the first horizontal test. There is a recompletion. The 219, is that what you said? That's the vertical test. That was the first one.

EXAMINER CATANACH: In the south half?

MR. KELLAHIN: Right.

Q. (BY EXAMINER CATANACH) Mr. Head, what kind of data did you use to construct your histogram?

A. We used formation microscanner data from the Huerfano No. 303, which is about a mile-and-a-half to the east of the Huerfano 300, which was drilled at the same time -- Huerfano 303 was drilled at the same time as the Huerfano 300.

And we found that our best developed open natural fractures, as indicated by the formation microscanner, were within the Tocito interval or actually right at the base of the Tocito interval. And that histogram on Exhibit 7 is a result of that study.

Q. So it was just run on that one well?
A. It was run on that one well. That corroborates an earlier study that we in the geology department did prior to the drilling and determining the azimuth of the Huerfano 300 new drill, which had essentially the same azimuth as the one which we propose in this wellbore.
Q. Do you anticipate any kind of a stimulation or fracturing in the open hole?
A. No, sir. We're hoping for a natural completion.
Q. You made a statement that you thought this would be a gas well. What will lead you to that conclusion?
A. I believe that the wells in the area are all classified as gas wells based on their GORs. But the newness of the technology is why we're a little bit hesitant about that because we feel that -- we feel that we're really optimizing our chances of recovering liquids by encountering natural fracturing with a horizontal test.
EXAMINER CATANACH: I believe that's all I have.
Anything else?
MR. KELLAHIN: Nothing further.

EXAMINER CATANACH: This witness may be excused.

MR. KELLAHIN: I'd like to call Mr. Paul Allan. Mr. Allan is a drilling engineer with Meridian.

PAUL D. ALLAN

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

EXAMINATION

BY MR. KELLAHIN:

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

A. Paul Allan. I'm a drilling engineer with Meridian Oil.

Q. Mr. Allan, on prior occasions have you testified as drilling engineer for your company before this Division?

A. Yes, I have.

Q. In fact, you were the drilling engineer that testified in the Division case for the Huerfano 300 well, weren't you?

A. Yes, I was.

Q. As part of your duties as a drilling engineer, did you prepare and participate in the study that resulted in this proposal to your

company?

A. Yes, I did.

Q. And were you the drilling engineer that designed and approved this particular program for this well?

A. Yes.

Q. Have you been in charge of selecting the individuals to actually execute this program and to determine what tools and devices to utilize in the drilling of this well?

A. Yes.

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

EXAMINER CATANACH: He is so qualified.

Q. (BY MR. KELLAHIN) Mr. Allan, let me have you go to Exhibit No. 7, the large copy that we've put on the wall. Let's use that as an example by which you can describe for us your general well plan. Take us from the surface and tell us how you're going to do this.

A. Right. We will be going into the existing 4-1/2 inch casing. It is not shown on this. It is shown in the exhibit that we've got in the book. We will mill a 60-foot section of that casing. Mill a 60-foot section of that

casing -- I'm sorry, I need to back up.

We will be setting a cement retainer prior to any activity and cementing off the Dakota down to TD. We will then go in and mill off a 60-foot section, go back in and under-ream that section to the original hole size of 7-7/8 inch.

We will then set a cement plug or a very high density cement that we can kick off in. We'll then drill down with an assembly that drills straight, a packed assembly, down to the kickoff point at 5324.

At that point we'll unload the hole with an air mist system. And we'll begin directional drilling, building at 17 degrees per 100 to 90 degrees into the Tocito.

Q. What's the reason to use the air mist system in drilling the angle and then the horizontal leg of the well?

A. It allows for a test of the upper Niobrara zone. In an air mist drilling environment, formation damage, we feel that that is a contributing factor to eliminating formation damage.

Q. Have you been successful in applying

the air mist drilling --

A. Yes, we have.

Q. -- technology to other wells like this?

A. Yes, we have. Huerfano 300 and other wells since then have proven that the air mist system is a viable way of drilling horizontal wells.

Q. Characterize for us how this well program is different, for example, than the 300 well program.

A. This well, first off, most notably it is coming out of existing casing. The tools we will be using are 2-3/8 inch tools, which is different than the 4-3/4 inch of standard large-bore directional wells. So these are considered slim-hole tools.

This well is a combination of those two technologies, air drilling and slim-hole tools.

Q. Have we as of yet applied the slim-hole tool horizontal technology in wells in the San Juan Basin?

A. We have not, no.

Q. Okay. So this will be the first one?

A. Right.

Q. Describe for us then what happens?

A. We will at this point go in with a steerable assembly that can build at 6 degrees per 100 or can be held to hold a straight line as well. And we will drill out as far as we can get, staying within the drilling window with the 790 setbacks.

Q. I see in the display or the schematic there is the possibility to complete a certain portion of the lateral in the Upper Tocito and then to build further angle, level off again and drill the lateral continuing in a lower Tocito. Describe for us how you propose to do that.

A. The steerable assembly when it's rotated holds a straight line. It's got a slight bend to it and it just drills a little bit bigger hole. When you do not rotate it, the motor allows it to build angle or drill in a direction. And that's the theory behind the steerable design.

So we will stop rotating and allow the motor to build down, begin rotating again and then do the same thing to level off back into the other Tocito.

Q. Why would you want to do that?

A. To be able to test both zones

independently. It's an ongoing drill stem test basically is what we've got.

Q. Tell us how you'll complete the well for production.

A. We will run a 2-3/8 inch perforated tubing up to the kickoff point and pack it off at this point. That will allow us to either produce through the 4-1/2 inch casing or run tubing and a pump to right above the tubing, the existing tubing.

Q. Is there anything else that you propose in this well program before you test it for production? Any type of stimulation tests?

A. No.

Q. Okay. Anything else about the display?

A. Not that I can see.

Q. How are you going to know where you are?

A. We're going to be using a steering tool device that is basically hard-wired from the surface to 20 feet from within the bit. And this is a proven technology, and it uses accelerometers and so on to tell you exactly where you are. It's MWD technology.

Q. What's your anticipated time to

commence the operation and complete all the procedures?

A. Approximately twelve days.

Q. The plan is to start at this existing well and to remain confined then within the 790 drilling window of the north half spacing unit as shown on the display?

A. Correct.

Q. Okay. Anything else about the display?

A. No, sir.

Q. All right. Please have a seat.

A. [Witness complied.]

MR. KELLAHIN: That completes my questions of Mr. Allan. We tender him for cross-examination.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Allan, is it your proposal you just test the individual zones as you go through them --

A. Correct.

Q. -- drilling? What's the approximate lateral distance once you encounter the Tocito that you'll be drilling?

A. Approximately 300 feet, 280 feet,

somewhere around there.

Q. That will be approximately split even between the Upper and Lower Tocito?

A. Correct.

Q. If you encounter commercial production, how do you propose to complete it?

A. Running the perforated tubing. It will be just an open-hole completion with perforated tubing. We will run that in and then pack it off into the existing casing.

Q. So you'll be running the perforated tubing from the kickoff point down to the total depth?

A. Correct.

MR. STOVALL: May I ask a point of clarification?

EXAMINATION

BY MR. STOVALL:

Q. Either I didn't understand the question, or I didn't understand the answer, I think, in terms of the horizontal length of the well. You said 280 feet?

A. Excuse me. I'll have to go back up to it. It is approximately, yes, 280 feet to 320 feet, somewhere in that range.

Q. You're talking about the point where you reach the horizontal from the --

A. Yes.

Q. -- offset from the vertical?

A. Right.

MR. STOVALL: Okay. I misunderstood what you said.

MR. KELLAHIN: That's intended to simply be a plan. If they get into the reservoir and have the opportunity to go farther, they want the flexibility in fact to drill within the 790 setback.

THE WITNESS: All right. This map is cut off. I guess it's cut off at 1500 feet. It could have been doubled out to 3,000 or 3,800 feet. That is the end of the drilling window.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. So at this point in time, you don't really know exactly how far you're going to be drilling it?

A. No. We're applying two very new technologies in a way that really hasn't been done. We will go out until the drilling mechanics tell us we can't go out any farther.

Q. Besides the size of the tools, is there other significant differences between this well and the 300 well?

A. Other than we're kicking out of existing casing, no.

Q. Did you have any real serious mechanical problems with the 300 bell?

A. No, we didn't.

EXAMINER CATANACH: I believe that's all I have of the witness. He may be excused.

MR. KELLAHIN: Call Mr. Alan Alexander. Mr. Alexander is a petroleum landman with Meridian.

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 in Farmington, New Mexico.

Q. Mr. Alexander, on prior occasions have you qualified and testified as an expert

petroleum landman for your company before the Division?

A. I have.

Q. Pursuant to your employment in that capacity, are you familiar with the boundaries and the operations of the Huerfano Unit?

A. Yes, I am.

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

EXAMINER CATANACH: Mr. Alexander is so qualified.

Q. (BY MR. KELLAHIN) Let me direct your attention, Mr. Alexander, to the display following Exhibit No. 2, which I believe was the first display. It is identified as the offset ownership plat. Is that a plat that you prepared?

A. It was prepared under my direction.

Q. In preparing the plat did you have your staff determine the location of this 320-acre spacing unit insofar as where it was within the Huerfano Unit itself?

A. That's correct.

Q. Are you within the outer boundaries of the Huerfano Unit so that all offsetting

operatorship is controlled by the unit?

A. That's correct.

Q. In that instance then there are no other parties to notify of your application in this case, is there?

A. Yes, sir. There are no other parties.

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

MR. STOVALL: Do you want to cross on that? I don't think I've got any questions for Mr. Kellahin.

EXAMINER CATANACH: No, I don't have any questions.

MR. KELLAHIN: Okay. That concludes our presentation, Mr. Examiner.

EXAMINER CATANACH: Okay. Mr. Kellahin, I want to ask you about the special project oil allowable that seems to have been missed. I didn't see where you guys -- what exactly are you asking for with the special project for the allowable?

MR. KELLAHIN: We're asking for the project allowable that's been consistent with the past Division orders insofar as under the associated rules for this particular pool, a gas

proration unit would be 320 acres, and so that would be standard.

The oil proration unit is 80 acres. And the solution in the past has been to grant the allowable in terms of how many Standard Oil proration units are contained in the spacing unit, so this is simply four. Eighty acres divided by the 320 gives you four of these spacing units.

And the justification accepted by the Division in the past is that the lateral portion is projected to intersect each of those four 80-acre oil proration units. And so if this is classified as an oil well, we'll be entitled to take an 80-acre oil proration allowable times four. And that's what we propose to do.

In other cases we have asked for a bonus allowable in terms of a deliverability. We are not asking for that in this case. We didn't see that as a technical argument. It was simply a matter of practice and request by the applicant to the Division, which is consistent with what the Division has done in other cases for us.

EXAMINER CATANACH: Mr. Kellahin, does in fact a lateral portion of the wellbore or

horizontal portion of the wellbore traverse all four 80-acre proration units?

MR. KELLAHIN: That is the plan.

MR. STOVALL: Is that technically possible actually? You've got a straight line.

MR. KELLAHIN: It's technically possible and feasible. And unless the operator runs into some kind of limitations in the actual drilling which brings them short of the last of the 40-acre spacing units, then that's what we've asked to do, is have a drilling window that encompasses --

MR. STOVALL: Let me interrupt you and get perhaps the engineer here to take my copy of Exhibit No. 2 and draw the line showing me the orientation on that first plat.

MR. KELLAHIN: I think it's already drawn on one of these displays.

MR. STOVALL: I don't see where it goes across. Yes, you've got that display on that Exhibit No. 7 on the wall. It shows the angle.

MR. KELLAHIN: Here's the 3836 foot full extension of the entire open-hole interval that's shown on the figure 3 behind tab No. 2. And that would intersect all four of those

spacing units.

MR. STOVALL: Pardon me for being real technical, Mr. Kellahin, but I think what you're saying is that this wellbore will effectively transect -- is that the right word? the entire 328 acres even if it misses one of the 80-acre tracts -- is probably more accurate.

MR. KELLAHIN: That is a more accurate statement, yes.

MR. STOVALL: And therefore will likely draw reserves, even if the wellbore doesn't actually penetrate each of the 80-acre tracts, it will likely draw reserves if there's any oil to be had from each of the 80-acre tracts.

MR. KELLAHIN: That is our belief.

MR. STOVALL: Let me ask the engineer that question. You heard the statement. Your attorney has been testifying here for you. Do you agree with what he's said on your behalf?

MR. ALLAN: I agree completely, yes.

MR. STOVALL: I was going to save all my questions for the next case.

EXAMINER CATANACH: I believe that's all I have.

MR. KELLAHIN: I don't have a reference

to the prior order. I'll be happy to supply that to you.

EXAMINER CATANACH: Was that the well No. 300?

MR. KELLAHIN: I believe it was done in the 300, but I've forgotten the order number.

MR. STOVALL: Mr. Alexander, do you want to give an affirmative yes to that? You were nodding your head.

MR. ALEXANDER: Yes. We asked for the same type of allowables on that wellbore, both gas and oil spacing.

EXAMINER CATANACH: And that was granted?

MR. ALEXANDER: It was granted.

EXAMINER CATANACH: That must have been Mr. Stogner.

MR. KELLAHIN: It was Order No. R-9607.

EXAMINER CATANACH: R-9607.

MR. KELLAHIN: Yes.

EXAMINER CATANACH: Okay. Anything further, Mr. Kellahin?

MR. KELLAHIN: No, sir.

EXAMINER CATANACH: There being nothing further, Case 10481 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. 10481, heard by me on May 28 1992.

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 JUNE 9, 1992.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3