NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date OCTOBER 3, 1991 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Ernie Busch	NMOCD	AZTEC
Pinson McWhorter	Yates Petroleum	Artesia
Robert Lansford	Lanexco, Inc.	JAL
William F. Carr	Campbell, Carr, Berge & Sheridan	Santa Fe
Maurice Trimmer	Byram Co.	SF
Joe Ramey	Yates Pet. Corp	Artesia
Mike Burch	"	"
W. Kellahin	Kellahin Kellahin & Aubrey	Santa Fe
Ruth Ross	SEL ET Thomas D. Chase	Santa Fe
Paul Cooter	Roden Law Firm	Santa Fe
David Schoderbek	Meridian Oil	Farmington
Eric Bauer	"	"
Leg. Wilma Voigt	Wilma E Voigt	Carlsbad N.M.
James Bruce	Hinkle Law Firm	Albuquerque

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Hearing Date OCTOBER 3, 1991 Time: 8:15 A.M.

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NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10392

IN THE MATTER OF:

The Application of Meridian Oil, Inc., for a High Angle/Horizontal Directional Drilling Pilot Project, Special Operating Rules Therefore, a Nonstandard Oil Proration Unit, and a Special Project Allowable, Sandoval County, New Mexico.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

October 3, 1991

REPORTED BY:

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

ORIGINAL

A P P E A R A N C E S

FOR THE DIVISION:

NEW MEXICO OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico 87504
BY: **ROBERT G. STOVALL, ESQ.**

FOR THE APPLICANT:

KELLAHIN, KELLAHIN & AUBREY
Post Office Box 2265
Santa Fe, New Mexico 87504-2265
BY: **W. THOMAS KELLAHIN, ESQ.**

I N D E X

E X H I B I T S

EXAMINER STOGNER: This hearing will come to order for Docket No. 28-91. Today's date, October 3, 1991.

I'm Michael E. Stogner, appointed hearing officer for today's cases.

We'll call first, Case No. 10392.

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

EXAMINER STOGNER: Call for appearances.

MR. KELLAHIN: If the Examiner, please, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin & Aubrey, appearing on behalf of the Applicant, and I have four witnesses to be sworn.

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

Will the witnesses please stand to be sworn.

(At this time, all witnesses were sworn.)

EXAMINER STOGNER: Mr. Kellahin.

ALAN ALEXANDER

Having been first 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 by Meridian Oil, Inc., in their Farmington, New Mexico office as a senior land advisor.

Q. On prior occasions have you testified and qualified as a petroleum landman before the Oil Conservation Division?

A. I have.

Q. Describe for us what your responsibilities are with regards to this particular application before the Division.

A. I deal with the land position that we accumulated to drill this high-angle/horizontal project, and also helped coordinate the presentation for this morning.

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

EXAMINER STOGNER: Mr. Alexander is so qualified.

Q. Mr. Alexander, let me have you turn to the exhibit book package, and let's begin at the front with Exhibit No. 1 and let's have you identify that for us.

A. Exhibit No. 1 consists of our letter to the Division setting forth the application for the Piedra Lumbre No. 1 well, which is the high-angle/horizontal well which we are here to hear today.

In that application we've included as Exhibit A the C-102 Form plat that shows the location of the well to be in Section 22, Township 19 North, 2 West, of Sandoval County. And the well is located 1,775 feet from the east line and 2,005 and feet from the south line of that section.

Also included is Exhibit B, showing a plan view for the well.

Exhibit C is the vertical view for the proposed well.

Exhibit D is the offset operator plat showing which people we notified of this morning's hearing.

Q. Let's turn now to Exhibit No. 2, which is the same Exhibit D to the application.

A. Yes, sir, that's correct, an offset operator plat.

Q. What did you do to satisfy yourself, Mr. Alexander, that the information with regards to the ownership within the section, plus the offsetting operators, were true and accurate and current?

A. We employed the services of a contract broker to check the title in this area, and he furnished us with the names and the addresses of the parties involved.

Q. Has that landman broker's title data been reliable and correct based upon past experience?

A. Yes, sir, it has.

Q. Do you have any reason to believe that this is anything other than accurate today?

A. No, sir, I don't.

Q. Did you cause notices to be sent to all the interest owners within Section 22?

A. Yes, sir. The interest owners in Section 22 consist only of Meridian Oil, Inc.

Q. Describe for us the coding by which you

have shown where the various offset interest owners are in relation to Section 22.

A. We notified each owner in each section that offsets the Section 22. And the coding that is used is a square block with a number in it that represents the party that's in that section. And we notified all of those parties.

Q. What type of acreage are you dealing with in Section 22 in terms of its mineral ownership?

A. This is a federal oil and gas lease.

Q. The entire section is the same federal oil and gas lease?

A. Yes --

Q. If you'll look at Exhibit A on the application.

A. Yes, sir, it is.

Q. So you're dealing with common working interest and royalty ownership with regards to the entire section?

A. That is correct.

Q. Okay. If we look behind the notification plat, which is the first display behind Exhibit No. 2, what's the next display, Mr. Alexander?

A. We've included a topographic map showing the location of the proposed well and the surrounding topography. And behind that exhibit I have shown a land plat that shows Meridian's ownership in the area of the well.

Q. Have you made a search of the Oil Conservation Division regulations to determine whether this specific section is subject to any special rules concerning production out of the Mancos formation?

A. Yes, sir, I have.

Q. What did you find?

A. We did not find any special pool rules that would apply here. We believe that the subject location would be subject to statewide oil and gas regulations.

Q. What is the closest pool that the Division has spaced on other than statewide spacing in dealing with Mancos production?

A. The closest pool would be the Rio Puerco pool.

Q. Let me direct your attention to the large display that's on the hearing room wall on the right--and we'll talk about it in detail later--does it show the relationship to what's

identified as the Rio Puerco field to the Piedra Lumbre section?

A. Yes, sir, it does.

Q. Did you find any other special pool rules for any Mancos production in the immediate area other than that that's applied to the Rio Puerco pool?

A. No, sir. There are some other special pools that are not closer in proximity. This is the closest in proximity to it.

Q. After sending your notification to these various interest owners, have you received any objections from any of these parties to your application?

A. No, sir, we have not.

MR. KELLAHIN: That concludes my examination of Mr. Alexander. We'll move the introduction of Exhibits 1 and 2.

EXAMINER STOGNER: Exhibits 1 and 2 will be admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Alexander, in looking at the third page of Exhibit 2, it shows Meridian's interest in gray. What's the striped indications?

A. The striped pattern is also a Meridian ownership, but it is less than 100-percent ownership, and it ranges is from 50 to 90 percent gross working interest. The solid patterns are 100 percent gross working interest.

Q. When I look at Section 22, inside of that section I see what appear to be boundary lines following 40 acres, particularly the northeast quarter being boxed, the north half, the southeast quarter being boxed, and the southeast quarter southeast quarter being boxed. Are these of any significance?

A. No, sir, I don't believe they are. When I hesitated in answering Mr. Kellahin's question, I was looking at that same exhibit, but it is my understanding that this is one federal oil and gas lease at this point in time. It's a new lease that has been advertised. And I think some of those prior lease lines were leases that had expired in that area.

Q. So it's your understanding at this point that all of Section 22 is one single lease with common interest and ownership?

A. Yes, sir. And I will double-check that, and if it's different from that, I will let

you know that. However, we do own 100 percent of the working interest in the section.

Q. Now, in Exhibit A of Exhibit 1 -- I'm sorry. I should say Exhibit No. 1, the sub-Exhibit A, you show a lease number. It appears to be USA, being federal, NM 86448. Is that your understanding that that is the lease number that's inclusive of this whole section?

A. Yes, sir, that's correct.

Q. Does this particular lease extend outside of this section?

A. Mr. Stogner, I don't know the answer to that question, but I would be happy to find it for you.

Q. If you can perhaps supplement the extent of that particular lease and, as you had mentioned before, if there appears to be other federal leases within that track that may or may not correspond with the third page of Exhibit 2 --

A. Yes, sir.

Q. -- we would appreciate that.

EXAMINER STOGNER: I have no other questions of Mr. Alexander at this time, Mr. Kellahin, but we may reserve a question at a

later time in this hearing.

MR. KELLAHIN: All right. Thank you.

DAVID SCHODERBEK

Having been first 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 David Schoderbek. I'm a geologist and geophysicist with Meridian Oil in our Farmington office.

Q. Mr. Schoderbek, have you testified as a geophysicist and as a geologist on prior occasions before the Division?

A. No, I have not.

Q. Summarize for us your educational background.

A. I have a bachelor's degree in geology from New Mexico Tech that I received in 1981. I have subsequently worked in Houston, Midland, and the last three years in Meridian's office in Farmington.

Q. Describe your activity at the Farmington office concerning this particular

case.

A. I've cooperated--worked with another geologist in the southeastern part of the basin prospecting for fractured Niobrara, traps, and did the structural interpretation and quite a bit of the stratigraphic exploration to delineate this prospect.

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

EXAMINER STOGNER: You received your degree from Tech in 81?

THE WITNESS: Yes, sir.

EXAMINER STOGNER: What year did you get there?

THE WITNESS: 1977.

MR. STOVALL: Does that affect his qualifications, Mr. Stogner?

EXAMINER STOGNER: I can't remember. Thank you, Mr. Schoderbek. Mr. Schoderbek is so qualified.

EXAMINATION RESUMED

BY MR. KELLAHIN:

Q. Mr. Schoderbek, let's turn to the display book and have you look at the first document behind Exhibit No. 3. We'll save the

specific drilling engineering procedures for the next witness, but I would like you to describe for us geologically what is the plan that you're attempting to execute with this horizontal well as you explore the Niobrara formations in this vicinity.

A. That plat is set up, all of Section 22 is in the middle. We've put a box that has a 660 setback on all four sides inside that. We staked the location; that is 2,005 feet from the south line, and 1,775 feet from the east line.

Our proposed azimuth is in a northwesterly direction that would end no nearer than 660 feet from the north and west lines of that section. We believe that to be the azimuth that will intersect the most natural fractures in the Niobrara A, B, and C.

Our plan is to drill a vertical pilot hole and log it, and determine from the logs and mud log and core information we get from that well, if that is the azimuth we want to proceed with. We may also, at the time that we log that well, elect to spend all of our lateral section in the Niobrara A or B or C.

Q. When you, as a geologist, evaluate this

for its Niobrara-Mancos potential, why have you recommended a horizontal/high-angle well for this section as opposed to a vertical well?

A. We believe the Niobrara to be an interval in the Mancos formation that produces primarily from natural fractures rather than conventional matrix porosity and permeability. We believe that drilling a high-angle well will give us the most opportunity to encounter the largest number of natural fractures.

Q. Let's turn to the next display following that and have you identify and describe, first of all, where is this type log taken from and then describe for us what that log shows to you.

A. Our location is in Section 22. This is- a well from the Diamond Shamrock Zambarmo Lake Federal No. 41-18Y. That well was drilled to the Dakota. We're about two-and-a-half miles east of there in our proposed location.

The purpose of this log is just to show the prospective strata that we'll going spend our lateral in, the Niobrara A, B and C.

Q. What geologic data have you developed to cause you to believe that you have Niobrara

potential within the boundaries of Section 22?

A. Primarily that's based on shows and offset wells.

Q. Describe for us how this area is similar or dissimilar geologically to the Niobrara that is being produced in other areas of the basin?

A. Stratigraphically these are the same zones that are productive in Boulder field, east and west Puerto Chiquito pools, Gavilan Mancos pool, and also Rio Puerco pool.

Q. Is there any difference vertically in where these portions of the Niobrara are deposited in the basin as you compare them to other pools?

A. No.

Q. Do you see any material difference geologically to cause you to conclude that this particular area is not suitable for a horizontal test?

A. No.

Q. Has horizontal well completion technology been applied to other pools that have Niobrara production?

A. Yes, it has.

Q. Describe for us where those occur.

A. There has been a horizontal/high-angle well drilled within the Verde pool in the northwestern corner of the basin. There have been four wells drilled in the Rio Puerco-Mancos pool. Benson, Monten & Greer has drilled a high-angle well in the west Puerto Chiquito pool, and American Hunter is currently drilling a well also in the west Puerto Chiquito pool.

Q. Your application requests the flexibility to utilize the entire section as the spacing unit?

A. Correct.

Q. If you are on statewide oil spacing, it would be 40 acres for this area?

A. Right.

Q. What is the spacing utilized by the Rio Puerco pool for the development of that production?

A. The vertical wells are spaced on 320 acres. The operator, Samuel Gary, and their successor operator, Veterans Exploration, has received the ability to space their high-angle wells on 320 or 640 spacing at the discretion of the operator.

MR. KELLAHIN: Mr. Examiner, for your information, behind Tab No. 4 there's a locator map, and then behind that we've put copies of the Samuel Gary orders in the book for reference purposes.

In addition to the orders that are in here, Samuel Gary has also received a pool for a high-angle order, and I can give that to you in a minute.

Q. When you look at the geology in this area, have you prepared any cross-sections?

A. I've prepared numerous cross-sections and done a lot of correlation of individual logs to each other, but I have made the cross-section that's shown on the map, the small locator plat in the book right behind the Exhibit 4 tab, and that same cross-section is shown on the large map on the right.

Q. Let's have you describe that, then. We're looking at the first display behind tab Exhibit No. 4, which shows the location of that cross-section. Describe for us that cross-section, which is the large display on the board. It's also found folded up at the end of the exhibit book, in a separate envelope.

A. It's a cross-section that extends from the northwest to the southeast. The northwest end is labeled B, and starts in the Sam Gary Oil Producers No. 11-16 Federal well in the southeast of Section 11, proceeds to the Joe Farris No. 1 Elliott in the northeast of Section 13, approximately a mile away, and then proceeds approximately six miles to the Diamond Shamrock Zambarmo Lake Federal in the northeast of Section 18. That's the well on the right-hand side of the section.

The purpose of that cross-section was to show the correlative nature of the Niobrara A, B, and C members of the Mancos shale.

Q. And what do you conclude about its correlation?

A. That it's very straightforward. The zones we're proposing to spend our lateral section in, in the Piedra Lumbre No. 1, are the same zones that are productive in the Niobrara and Rio Puerco pool.

Q. Based upon the current available geological information to you, are you able to conclude that there is a reasonable probability that Section 22, developed with a high-angle

well, ought to produce hydrocarbons from the Niobrara?

A. Yes, sir.

Q. In your opinion, that is the most likely way of successfully exploiting the greatest quantity of those hydrocarbons?

A. Yes, sir.

MR. KELLAHIN: That concludes my examination of Mr. Schoderbek, Mr. Examiner. We would move the introduction of his exhibits shown behind Exhibit Tab 3, as well as his cross-section that's in the back of the exhibit book. It's not been separately identified.

EXAMINER STOGNER: Exhibit 3, in its entirety, including the B - B' cross-section, is admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Schoderbek, are there any fundamental differences, or what are the fundamental differences between the A, B, and C members of the Niobrara? How, as a geologist, can you describe those?

A. They are all fairly similar in their character. They all consist of thin-bedded

sandstone, siltstones and shales. The A, B, and C zones are in formal stratigraphic divisions of what is generally just called the Niobrara.

The strata were deposited in deep water in the cretaceous seaway that was the precursor to the present day San Juan basin. And because of their deposition in deep water, their character is that of extensive sheet-like deposits that can be readily correlated quite easily across the entire basin.

Q. What was the mechanism for the expected and observed fracturing of these zones?

A. The position of our proposed location is at the foot of the synclinal bend that bounds the eastern margin of the San Juan basin where steep dip, adjacent to the Nacimiento uplift, turns into gentle dip in the floor of the basin.

In addition, we're in a structural sort of corner of the basin where northerly strike turns into easterly strike.

Q. Now, we're approaching the edge of essentially what we consider the San Juan basin as we go toward Cuba. Does the Niobrara outcrop somewhere near here?

A. Yes, it does, probably ten miles east

of our proposed location.

Q. You show on your exhibits today that the Niobrara is somewhat gently sloping, in fact it appears to be, what, about an 80-degree slope? I'm looking at your page 3 of your Exhibit 3. Does that show an accurate depiction of the dip of the Niobrara?

A. Yes, it does. Those strata dip approximately 2 degrees in the plain of the wellbore, which is drilled pretty much perpendicular to structural strike. They dip two degrees to the northwest.

Q. As I go to the east from this location, naturally, since you said ten miles to the east it's going to outcrop, does this gentle slope extend to the east much further and then it abruptly changes, or do we start seeing the change, or do you expect to see the change at this point with a gradual outcrop to the ten miles?

A. We see the change based on the structural information we have just to the east of our proposed location, in that we climb the approximately 2500 feet from where we anticipate encountering the top of the Niobrara very rapidly

in that we're right near the steep bend or the bend where the steep dip, coming down from the outcrop, turns into the gentle two-degree dip in the basin.

Q. And that's what you're relating to as far as your fracturing?

A. Yes, sir.

Q. That's because of this tremendous bending of the formation?

A. Yes, sir. It's a change in dip, primarily.

Q. Now, in looking at the exhibits today and the maps and such, you have a lot of information, it appears, or a lot of information available to you from the Rio Puerco field. But to the south of there, your Diamond Shamrock well in which you show on your exhibits, are there any other Mancos wells or penetrations south of that Rio Puerco field?

A. Yes, there are. I guess we probably had about--there are about six penetrations in Township 19 North, 2 West. There are quite a few penetrations in Media Gallup pool, which is located about six miles west of our proposed location -- I'm sorry, Media Entrada pool. All

those Entrada wells are also Gallup penetrations.

Then there are scattered, for the most part, deeper tests, Dakota and Entrada and some of them basement tests throughout the area.

Q. Obviously you utilized this information available to you--

A. Yes, sir.

Q. --in your geological description or study?

A. Yes, and we also interpreted approximately 80 miles of nonproprietary seismic data, data that we purchased.

Q. Did any of those seismic lines go over this particular section?

A. Yes, sir, they do.

Q. And to the east were there any or very much seismic information available to you?

A. The data was primarily shot for the Entrada play that was going on in the mid- to late-70's and early 80's in the southeastern part of the San Juan basin. And primarily the data pretty much ends as you approach the outcrop.

Q. From this information, you were able to obtain, as we described before, the abrupt change

in the dip of this formation?

A. That's correct.

Q. For reference sake, where is the Entrada located in relation to this Niobrara?

A. It's off the bottom of that cross-section. It's down below the Morrison, which is the uppermost Jurassic section that I described on the bottom of the cross-section, probably another 5- to 800 feet below the top of the Morrison.

EXAMINER STOGNER: I have no other questions of this witness at this time, Mr. Kellahin. I would appreciate it, however, Mr. Kellahin, if you would have Mr. Schoderbek provide me a finding paragraph, essentially, bringing all of his description of the Mancos formation in this particular area in a paragraph form, if you would, please.

Being a petroleum engineer, I probably lack some of the terminologies in which you could best describe it for me. In particular, the deposition and the abrupt change leading to the expected high fracturing in this particular area of the Niobrara.

MR. KELLAHIN: Do you want him to

prepare a structure map that visually displays the regional structure in here, or do you simply want a written narrative?

EXAMINER STOGNER: I will take that also. I'd like both, since you mentioned it.

MR. KELLAHIN: We'll supplement his presentation with those documents. In addition, we would like to provide you a rough draft order that would include those type of findings for your consideration.

EXAMINER STOGNER: I would appreciate it. Thank you.

JOHN CLAYTON

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

EXAMINATION

BY MR. KELLAHIN:

Q. All right, sir. Would you please state your name and occupation.

A. My name is John Clayton. I'm a drilling engineer for Meridian Oil.

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

A. Yes, I have.

Q. What have been your duties with regards to this application that's before the Examiner today?

A. I'm primarily responsible for the mechanical design work in this well.

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

EXAMINER STOGNER: Mr. Clayton is so qualified.

Q. Describe for us what specific well you previously discussed drilling before the Division?

A. The Howell L5.

EXAMINER STOGNER: I'm sorry, which one?

MR. KELLAHIN: The Howell L5.

Q. Let me have you turn, Mr. Clayton, to the display that we were talking to Mr. Schoderbek about, which is the vertical profile. It's found in the documents behind Tab No. 3.

Using this as a visual reference, give us a description of the drilling program that you have recommended to your company for the drilling of the high-angle well.

A. Starting at the surface, this profile

map is done on a one-to-one scale. What we're seeing here, it's actually in proportion. We plan on setting 13-3/8" casing at about 200 feet, and nippling up our BOP's on that, using it primarily as a diversion string.

Since this well is in an area that we're still learning quite a bit about, we decided to drill a vertical pilot hole down to the top of the Juana Lopez. That's located at about 3,500 foot true vertical depth.

That would be a 12-1/4" hole and the entire portion of that hole would be drilled with a fresh water basin mud. The purpose of that is to get some geological and reservoir data that would maybe give us a better handle on what interval of that thick section there is more apt to fracture.

Q. Has Meridian used the vertical pilot hole in its other horizontal wells that it's drilled in the basin, for the Niobrara production?

A. No, sir.

Q. Why are you choosing it in this particular area?

A. This area here, we do not operate a

whole lot of wells out here. The stuff that I have seen, we don't have any wells that really have a true handle on where the fractures are out here, strictly for data.

Q. In other areas you already had existing data that satisfied the technical basis upon which then you could go ahead and drill your horizontal or high-angle well without having also a pilot vertical hole?

A. Yes, sir. The most efficient way to drill these wells would be drill to kickoff without drilling the pilot hole.

Q. In this area, the reason, then, for having the pilot hole is what?

A. Strictly for data, and hopefully we can develop this into a larger play in costs spread over a larger amount of wells would be insignificant.

Q. You said you're going to drill the well with fresh water?

A. Yes, sir. It will probably be inhibited about three percent potassium chloride just to keep the shales stable, to give us enough time to log the well and take sidewall bores.

Q. Do you use fresh water as the drilling

fluid for the horizontal portion of the well?

A. No, sir.

Q. After you've drilled the pilot hole, obtained your data, determined your direction that you want to pursue with the high-angle portion, what then to you do? Do you establish a kickoff point?

A. Yes, sir.

Q. Start there and tell us what happens.

A. Okay. We will get together with the reservoir department and the geology department and interpret the logs. Hopefully they can narrow down this thick 500-foot section into something a little thinner for us. For this case, we're assuming that the logs will not tell us that there's any specific zone that's more apt to fracture.

If that is the case, we're going to kickoff about 4- or 500 feet above the top of the Niobrara A. We'll be setting an open hole cement plug, we'll dress it off, and strictly kickoff with a mud motor in time to go off that plug. Once we kickoff--and we're still drilling a 12-1/4" hole--we'll build to about 80 degrees.

Now, that inclination you can change,

depending upon how flat we want to get it and how thin the zone is. Of course, the thinner the zone we're after, the higher the angle we'll have to build to.

Once we turn the corner and get 80 degrees at the top of our target, assuming it's a Niobrara A in this case, we'll run nine and five-inch casing. The drilling fluid during that part of the hole will be an inhibited fresh water mud at that point, also.

Once we get pipe to bottom, cemented to surface, we'll go from there and unload the hole and take our drilling fluid out of the hole and replace it with a polymer based mist system. From there we'll drill 8-1/2" hole to the outer boundaries of this plan view on the right side of this map, the 660 setbacks, and that will be drilled with an air mist drilling fluid.

Q. How does that procedure compare to the procedures used by Meridian in its other Niobrara horizontal wells?

A. This is our first Niobrara well that we have drilled. We're currently drilling one right now, and it's about identical to it.

Q. Is there any difference that's of

importance to you as a drilling engineer, in the drilling fluids that are used for the high-angle well?

A. To be quite honest, I'm very concerned with the stability of the Niobrara shale in different parts of the Rockies. It's pretty nasty. Since this is a new area and we're going to have a lot of Niobrara open during this part of the hole, time wise and length wise, it is of great concern to me.

Q. How can you best manage that risk, as a drilling engineer?

A. We will inhibit this mist. It will be a polymer and it will also be a potassium-chloride based mist. If we can keep the salinity of our drilling fluid greater than the salinity of any water that would be in the shale, then of course it it will remain stable. If we're unable to do that, we'll probably have to mud up at that time.

Q. Describe for us the drilling procedures for developing the high-angle, and what type of equipment would be utilized.

A. The vertical well will be conventional rotary drilling. Once we get to kickoff we will

use a hud motor with a rotostator configuration that we've discussed at previous hearings. We will utilize MWD at that point, which will be able to give us real time data where we are.

After we run casing, of course the MWD's we'll use do not work in casing, and we'll have to drill out about a hundred feet from the casing shoe, and there again utilizing MWD.

The MWD drilling with air or gas is relatively new to the industry, but we've utilized it on previous wells and it does tend to work better than a steering tool.

Q. How will you set the well for production?

A. At that point we will--by drilling with an air mist. If we encounter any hydrocarbons, we should see them on surface. It won't be masked by any hydrostatic head. If that is the case, we're anticipating running a preperfed and plugged liner, 5-1/2", uncemented, and tying it back to about 60 degrees in the curve. From there we go to the middle of the plugs and hopefully produce the well naturally.

We're also looking at, if we do not see any shows while we're drilling with that, we

intend to run a 5-1/2" liner, cement the entire liner, go in later with a completion rig, perforate through tubing, and hydraulically stimulate the well.

Q. What is the basis for the high-angle penetrating from the top of the Niobrara A to what is characterized as the base of the Niobrara C, rather than simply cut only a portion of the Niobrara with a total horizontal laid to the well?

A. This exhibit here is basically generic now. These are the three intervals that are productive in other fields around here. In this particular area there's no production around this well that's producing from any of these three.

Once again, if we can identify one of these three zones that's more apt to fracturing, then we'll choose that zone to drill in. If not, we're trying to utilize the entire legal limits of the window with the 660 setback and cover as much of the Niobrara A, B and C as we can.

Q. From your perspective, then, as a drilling engineer, let's go through those specific items for which you're seeking operational flexibility from the Division.

First of all, you want the flexibility to penetrate, in terms of a producing interval, any portion of the pool in this vertical section that's been identified as the Niobrara member?

A. That's correct.

Q. Horizontally, then, you want the flexibility to stay within a drilling window that's contained within this section and set back 660 from the side boundaries of that section?

A. That is correct, too. Also, this azimuth was chosen on some seismic work. We will also be running a fracture identification log that should tell us if there are fractures, and if there are, the orientation of those fractures. Hopefully, the orientation of those fractures will confirm that we're drilling perpendicular to them. If they do not confirm that, we would like some kind of a variance to change this azimuth from what it is written on here.

Q. Have you fixed on a surface location that will not change for this well?

A. Yes, sir.

Q. So the surface location remains the same, but there is a possibility that the

direction and angle of the well will change once you determine what the reservoir data tells you?

A. That's correct.

Q. The finished bottom hole location is subject to change as well?

A. Yes, sir. From a drilling point, this would be worst case. This is probably the absolutely furthest we can drill legally. But if the data comes in from the geological tools we're going to run with fracture orientation, we would like the flexibility to drill to probably any corner in that section.

Q. That would give you an approximate maximum horizontal interval of approximately how many feet?

A. From surface location to the 660 setback, we'll have the 3,850-foot departure.

Q. And that's the maximum that would exist within this drilling window if you're successful to the limits of this particular section?

A. That is correct.

Q. Are you aware, as a drilling engineer, of any other procedures that you're requesting special flexibility for so that you can make operational decisions in the field to help you

maximize the opportunity to have a successful well?

A. No, sir. That about covers it.

MR. KELLAHIN: We submit Mr. Clayton for cross-examination, and I believe his exhibit has already been introduced by a prior witness.

EXAMINER STOGNER: So noted.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Clayton, your point of kickoff will, of course, be determined by conventional directional drilling methods, I would assume.

A. Yes, sir.

Q. And that portion would be measured while drilling your MWD, as you talked about, to the 9-5/8" casing point?

A. Yes, sir.

Q. And you stated that MWD would be attempted, and usually successfully, after the hundred feet out from under the 9-5/8, correct?

A. Yes, sir. The previous well--we've only drilled one well utilizing this tool, and it's been brought to my attention since then, it's the only well used in the world with this MWD behind a steerable motor. We were concerned

when we tried it on the Howell L5. We had great success with it, and it did worked.

Q. Which tool was it, may I ask? Could you go into a little bit more detail on the MWD?

A. It's no secret that the only vendor is--that the name of the company is Geo Services, and it's the only tool in the industry right now that sends radio waves and uses the rock to transmit data instead of the actual drilling fluid. They are out of Canada.

Q. So when you say the radio waves, it's actually being transmitted through the rock and not up the drill pipe?

A. Yes, sir. And the reason this tool doesn't work really good when you're right outside of your casing shoe is because, due to cement, that casing is bound to rock, and it does give you interference. It's pretty interesting. On location they hook up little antennas. You might have a barbed-wired fence around your reserve pit, and you go out there and clip them on. You might have some kind of a drill stem test frac tank that you're utilizing, and you go clip it onto that.

When these waves come up through the

earth, they're picking up the signal through the fence that we have or maybe through the tank that we have sitting there.

Q. If worse case scenario happens and it's your understanding that you had to go from air mist to heavier, either fresh water or even a mud, would this same MWD work with other drilling mediums?

A. Yes, sir, it will. It is more expensive than a, I guess you could call it, conventional MWD that works through a drilling liquid. At that time, while we're mudding up, we would probably switch out vendors at that point to save costs.

Q. On your Howell No. 5, I assume that after the well was drilled you did run a multi-shot or a conventional--a multi-shot or a down hole survey of the hole?

A. What we did on the tool, when we drilled the build on the Howell L5, we utilized, since we were drilling with mud, a different vendor that supplied an MWD. We ran a multi-shotted kickoff, we tied in our MWD to the multi-shot.

After we ran casing, we went and tied

in with the third company. The azimuth and everything was at par with the previous tools. We took surveys every 30 foot on the Howell L5. As far as a multi-shot, we would have had to load the drill stream with fluid to pump that multi-shot down. And when we finished the Howell L5, we finished it with air.

Q. So this new Geo Services tool was the only survey on that hole that you had?

A. In the air drill part, yes, sir.

Q. In the air drill part.

A. We used a different company's MWD tool through the build, and then also a different tool for the multi-shot and the vertical. But that that is correct, they are the only survey instrument we had in the air drill portion of the hole.

Q. Does Geo Services, or do you, do you know what the accuracy of this Geo Services MWD tool is, as far as its--

A. I believe it's published at plus or minus two degrees with azimuth. The inclination would be significantly less than that.

Q. Is it your understanding that this particular tool, you said it was the first to be

utilized, is it still in the development stages?

A. No, sir, it's the first to be used behind a steerable motor.

Q. Okay, I'm sorry. So it has had quite a bit of accuracy testing; so it's in the production phrase, but you're using it for--

A. That same tool is being used in the Rio Puerco field right now, by a different operator. The mechanics of the tool itself, when you run behind a motor, the motors tend to tear them up, and they were pulling them out of the hole all torn up. They were losing pieces in the hole. When you rotary drill, you don't have as much reactive torque from the motor and, therefore, their tool wasn't tearing up. But this was the first time it was ever run behind a motor, was on the Howell L5.

EXAMINER STOGNER: I have no further questions of this witness at this time. Thank you.

Mr. Kellahin.

CHRISTOPHER SETTLE

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

EXAMINATION

BY MR. KELLAHIN:

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

A. My name is Christopher Settle. I'm a petroleum engineer for Meridian Oil.

Q. Mr. Settle, on prior occasions have you testified before the Division?

A. No, sir.

Q. Summarize for us your education.

A. I received a degree in petroleum engineering in 1987 from Louisiana State University.

Q. Subsequent to graduation, where have you been employed as a petroleum engineer?

A. I've worked for Meridian since I've been out of school.

Q. Describe for us your particular responsibilities as a petroleum engineer for your company.

A. The initial three years I worked for Meridian I work in the production engineering group, and beginning in January of this year, I have been transferred to the reservoir engineering group.

Q. You're located in Farmington, New

Mexico?

A. Yes, sir.

Q. Describe your specific responsibilities to this particular horizontal well that's the subject of this application.

A. I originally analyzed the bid price for the acreage in April, and have subsequently done the economics and prepared the package to drill the well.

Q. As part of your engineering study, have you made yourself familiar with the order that Samuel Gary received from the Division dated October 26, 1990, which is Order No. R-9330, which established their personal procedures for the drilling of their horizontal well?

A. Yes.

Q. In terms of their allowable and other procedures that they were authorized to employ in their horizontal well?

A. Yes, sir.

MR. KELLAHIN: We tender Mr. Settle as an expert petroleum engineer.

EXAMINER STOGNER: Mr. Settle is so qualified.

Q. Let's talk from a reservoir or

petroleum engineering analysis of the difference between the vertical versus the horizontal well.

As applied to this particular section, what are you attempting to achieve with the horizontal well that you won't be able to achieve with a vertical well?

A. Our object of drilling horizontally in this section is to intersect as many natural fractures as we can. The matrix permeability and porosity are very low, and without the natural fractures we won't encounter an economic wellbore.

Q. The advantage of the horizontal well over the vertical well, then, is you increase the opportunity to encounter more fractures than you would with a conventional vertical well?

A. Yes, sir.

Q. In analyzing the observe potential, do you have any ranges to share with the Examiner in terms of nonrisk reserve potential for this section?

A. Our economic nonrisks were based on just over 200,000 barrels per well.

Q. How do you compare that to the cost of the wells involved? What's a general range of a

conventional vertical well in this area?

A. Approximately $500,000.

Q. As compare to the horizontal well that's proposed for this section?

A. This particular well is AFE'd for approximately $1.4 million.

Q. Have you been watching Samuel Gary and their horizontal operations to the north of you, Mr. Settle?

A. Yes, sir.

Q. Describe for us generally what's occurring in the Rio Puerco pool to the north.

A. They've currently drilled four horizontal wells in their Rio Puerco pool. The first was the San Isidro 10 No. 12, which is in Section 12, and it was drilled in a north/northwesterly direction. Excuse me, that was the second well.

The first well was the Renegade No. 1 drilled in Section 13. That well, they have not reported any volumes to this state. The only volumes we have are reported on the San Isidro 10 No. 12.

Recently they have drilled the Johnson 3 No. 7 in Township 20 North, 2 West, and they've

drilled that across the section lines from Section 7 into Section 6.

MR. KELLAHIN: I can't hear the witness.

EXAMINER STOGNER: I can't, either.

(A brief recess was taken.)

Q. (BY MR. KELLAHIN) I'm sorry, Mr. Settle. You were describing the four wells that Samuel Gary was drilling or in the process of completing in the pool to the north?

A. That's correct. They have drilled the Johnson 3 No. 7, but to my knowledge they haven't completed that well. Their fourth horizontal project was reentering the San Isidro 15 No. 7, and the information we have is that they've drilled multiple laterals in that well. As far as azimuth and lateral length, we don't have that knowledge. It hasn't been reported to the state.

Q. Have you reviewed the division transcripts and records that involved Samuel Gary's approval of that horizontal drilling program?

A. Yes, sir.

Q. When we look at applying some of those procedures to our case, there are a couple of

items that I want to discuss with you. First of all, as your request for an allowable for the section, what is your recommendation to the Examiner?

A. Our recommendation is to follow the same pool rules that they are subject to and, on a 320-acre spacing, it would be 320 barrels of oil per today, and a 640-acre spacing would be 640 barrels of oil per day. And because we will be cutting both dedicated 320's in our wellbore, we recommend we have a 640-acre spacing and a 640 barrel per day allowable.

Q. We've already talked about the drilling setbacks for the maximum distance that we can approach the side boundaries. Do you have a recommendation to the Examiner that concerns any gas/oil ratio limitation? The statewide rule is 2000-to-1, isn't it?

A. Yes, sir.

Q. What's your recommendation in this case?

A. Our recommendation is to receive that 2,000-to-1 gas to oil ratio.

Q. Any other special procedures that you request from the Examiner concerning this

particular operation for your company on Section 22?

A. No, sir.

MR. KELLAHIN: That concludes my examination, Mr. Stogner.

EXAMINATION

BY MR. STOGNER:

Q. Mr. Settle, and this kind of disembarks from the OCD's past practices of horizontal wells, if the producing portion of that well crosses whatever existing spacing is in the pool or the formation, and if the horizontal portion of the well has crossed over that, then it has been the past practice for the OCD to multiply the normal allowable times whatever the trajectory crossed into.

This is a little bit different inasmuch as in this particular area we're on 40-acre spacing, and you're asking for 640-acre spacing proration unit today with a special allowable of 640 barrels which, by the way, is a little bit less, actually half less than what we would if we multiplied normal 40-acre depth bracket allowable of 80 barrels times times 16, being the number of 40-acre tracts in this 640-acre section.

If anybody's confused on that, get with me later. Okay. As we show it today, understanding that you're asking for a flexibility, but if the well was drilled today in the method in which you're describing--and I'm referring now to Exhibit No. 2--you essentially would cross, given a liberal figure, one, two, three, four, five, six, seven 40-acre tracts but you're asking for something bigger today, and I'm assuming because of the fractured nature of the pool, is that correct?

A. Yes, sir.

MR. STOVALL: Let me follow-up with a question on that.

EXAMINATION

BY MR. STOVALL:

Q. Just to lay the groundwork for understanding, you're using the Samuel Gary Veteran San Isidro shallow unit kind of as a starting point to come up with some rules, is that correct?

A. That's correct.

Q. You reference the 1990 order. You didn't reference the A order which was issued in 91 which modified that in a substantial way, as

it would affect what you're trying to do here, is that correct? In other words, that order allowed for the establishment of a variety of proration unit sizes within that pool and unit and allowable, based upon the acreage dedicated to the well.

It was a modification from what Mr. Stogner is talking about, in terms of number of standard proration units crossed.

MR. KELLAHIN: And we're concerned about making our particular Section 22 too complicated, and what we want to start off with is a simple allowable on 640 for this Section 22, recognizing if there is future development for us after the fact, then we now have a wellbore that can be used as a basis to create a new pool and special rules that may or may not require that they be similar to Samuel Gary's pool some distance to the north. But rather than ask for the multiple varieties that they did within their unit operation, we chose for convenience, I guess, the 640 oil allowable for the 640 spacing.

MR. STOVALL: What you've done, in effect what you're asking for is something

different than what Mr. Stogner described. You're saying, "Give us a 640, let's assume if we do this right we'll going to drain the 640 by intercepting the fractures properly, and therefore a 640 proration unit and allowable is the most appropriate way to regulate this particular--well, in effect, a one-section pool, one well, one-section pool.

MR. KELLAHIN: Basically, as a special project allowable for this well, to give us something to get started with. And later, if this turns outside to be a multiple well project like Samuel Gary's, then we can come back to you with more specific data as to the site and give you a better way to more accurately determine allowables and anything else.

FURTHER EXAMINATION

BY MR. STOGNER:

Q. Mr. Settle, you've done some studies on other Mancos wells and pools. Are most of those spaced on bigger acreages than 40?

A. Yes, sir. The only ones I'm inherently familiar with is the Rio Puerco pool. My accuracy and knowledge on other pools would be questionable. I believe the Gavilan pool was on

640 and West Puerto Chiquito was on 640 spacing.

Q. You're basing that because of the fractured system of these Mancos or of Mancos formations in which you're familiar with?

A. That's correct.

Q. And because of that, that makes it somewhat different than conventional oil pools or oil-bearing formations?

A. That's correct.

MR. STOVALL: Let me ask you a follow-up question.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. Basically what we're doing is the prevention of waste. I assume, if I may put words in your mouth, and you can correct me if I'm wrong, the objective here is that by effectively horizontally drilling, identifying the fracture orientation and horizontally drilling perpendicular to that fracture orientation, you can hopefully prevent waste by draining a larger area with one well, produce more oil at a more efficient cost, and ultimately improve the recovery from the pool, is that correct, from a waste standpoint?

A. Yes, sir, that's correct.

MR. STOVALL: Oh, good. I always like putting words in engineers mouths.

MR. KELLAHIN: You don't get to do it very often, do you?

MR. STOVALL: No, I don't.

Q. From a correlative rights standpoint, and take as a given my statement that there is some information in some fractured Mancos pools that some of these fractures are quite long, perhaps as much as a mile or more, and there's some communication over several thousand feet, what is your comment or opinion--and maybe we need to do somebody else as far as the correlative rights impact--if you go sniffing around in one section and are successful and do what you want to do here, as distinguished from the San Isidro unit where it is unitized operations with a single operator, can you make the comparison or contrast with this situation as to how correlative rights can be protected if you are successful?

A. Even if the well is an economic project, we won't know how far those fractures do have communication and what the interference

effects would be between section lines or whatnot until we have drilled more than one well or are allowed to do some interference testing and reservoir analysis.

Q. Now, go back to Mr. Alexander's exhibit understand Tab 2 which shows the area. It looks like you're fairly immediately surrounded, with the exception of Section 15, by 100 percent Meridian-operated acreage, is that correct?

A. Yes, sir.

Q. Do you know if your company has any plans to take advantage of that acreage control position to achieve some of the benefits that unitized operations have given Veterans up in San Isidro? Do you understand my question?

A. Could you rephrase it?

Q. With the unitized operations, there's a single operator who is able to make some management decisions as far as drilling, based upon the type of information you're talking about over a 17-, 18,000-acre unit. Under the terms of that unit agreement and operation can assure the protection of correlative rights through the allocation of production and the agreement itself. Do you gain any advantage with that?

This is not unitized, this is separate leases, and we don't know the exact extent of them, but how can you obtain a similar type of management protection, if you will, as opposed to well drilling protection of correlative rights, do you know? Are you in a position to answer that question?

A. I think that would probably be better answered by Alan.

Q. The concern is that if you give flexibility, you've got to--and I'm kind of getting off on a tangent here--I understand what you want to do, but looking long-term you have to give some other opportunities to take advantage of our experience.

A. We would be interested in protecting correlative rights, and with a successful well in our acreage position, Meridian would probably look toward unitization.

MR. KELLAHIN: Well, even short of unitization, Mr. Stovall, they have leasehold obligations as a prudent operator that would require them to develop these offsetting acreage if they knew, as the operator of the adjoining section, that they were adversely affecting

property that they held for others. So I think the procedure here is one that gives them the greatest option to be diligent, prudent operators to develop further wells, even in the absence of unitization.

MR. STOVALL: Seeking a similar type of flexibility to, again, drill the most efficient well possible and space them most efficiently to maximum recovery? Is that the intent? Is that what you're trying to say?

MR. KELLAHIN: Absolutely. With the acreage position in here, they have an opportunity that few have. You often develop a section in which that's the only section you control. If we develop procedures that work for this section, they can be applied by Meridian to other sections, to the advantage of those owners within those sections.

Q. (BY MR. STOVALL) I recognize the purpose of this application is you seek only, in effect, rules for this well and this section. And, if I understand what you're saying, you would anticipate with another well, you would probably come back and ask for a similar thing based upon what you learned, is that correct?

A. That's correct.

Q. At some point you would reach a point of knowledge where you would say Okay, we can identify the pool, and now let us operate this pool under a particular set of rules that will allow us to maximize recovery with a minimum of wells and protect everybody's interests?

A. Yes, sir, that's correct.

MR. KELLAHIN: It also serves as a data point in which the Division, perhaps in the near foreseeable future, can develop rules on a basin-wide area basis for high-angle wells in the Mancos. This is yet another data point in the reservoir that can serve as an example from which we can assimilate all this information and perhaps come to you with a rule change for horizontal wells in this particular type of formation.

So we'll start off probably as one of the conventional expansions of discovery, if you will, but I think we ought to also look to the future and develop general rules as we did for the coal gas, so that we don't have to come back and do these one at a time.

MR. STOVALL: I appreciate that, and

that is why, as I think as you know in other hearings of a similar nature I've kind of taken the same line of reasoning, because that is the objective of the Division. As we learn more, we develop a set of rules which we can then apply on a more general basis and not require operators to come in on each well to do that.

So I appreciate your comments. And that's my objective, to establish that foundation for future work. And I think I've convoluted this thing enough, so I'll let the Examiner get back to nuts-and-bolts questions.

FURTHER EXAMINATION

BY MR. STOGNER:

Q. To follow-up on that, Mr. Settle, were you involved or were you aware of--I don't want to say a push, but a study group or discussions, I think a couple of years ago, of perhaps making the Mancos shale as a hole in the San Juan basin spaced on 640 acres or something other than 40?

A. No, sir.

MR. KELLAHIN: We examined that topic for you, and as best we can determine, it never proceeded much above the conversation stage. We cannot find any record of a formal industry group

being called together to meet on that topic. There were informal discussions, as best we can find, but there was no formal study group organized that met to specifically develop rules for this pool in a fashion similar to the coal gas. It never proceeded to the point of being a formal work-study group, as best I can find.

EXAMINER STOGNER: Thank you, Mr. Kellahin. I guess the rumors I heard were far exaggerated.

I have no other questions of this witness at this time. Any other questions of Mr. Settle?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: All right. You may be excused.

Anything further, Mr. Kellahin?

MR. KELLAHIN: Mr. Alexander indicates he has the specific answers to your previous question when he was the witness, and if you would like to put them in the record now, we would be happy to do that. If you would like to take it under advisement, we'll submit it to you post-hearing.

You were asking him specifically about

the ownership within Section 22 and whether or not that was, in fact, a single federal lease at this time.

EXAMINER STOGNER: Mr. Alexander, yes, I would recall you to the stand at this time, and let's go ahead and get this over with.

ALAN ALEXANDER

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

FURTHER EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Alexander, let me remind you that you're still a qualified witness under oath for this hearing.

In response to Mr. Stogner's questions concerning the ownership of Section 22, have you verified what that ownership is?

A. Yes, sir, I have.

Q. What is your verification?

A. That the federal lease that was referenced on the C-102 plat is correct, and it does cover all of Section 22, and it additionally covers the northwest quarter of Section 15 immediately to the north.

Q. Is that the only acreage that is in the

federal lease that is inclusive of Section 22? The northwest of 15 and all of 22 is the same federal lease?

A. Yes, sir, that's correct.

Q. There's no other acreage, then, in that lease?

A. No, sir.

Q. The indications on Exhibit No. 2, the plat which showed a different configuration within Section 22, is old, expired leases?

A. Yes, sir. We have no maps in this area, and that's a duplication of a Pomco map. And the prior leases that expired down here were broken into various pieces, but when they readvertised these for sale in new federal leases, they consolidated them, and that's what we have today is a consolidated leasehold.

MR. KELLAHIN: Thank you, Mr. Alexander. I have no further questions.

EXAMINER STOGNER: No other questions of Mr. Alexander?

MR. STOVALL: Let me just ask one.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Alexander, you heard my line of

questioning on the correlative rights thing. Do you have anything different you would like to add to the concept of protecting correlative rights while managing this pool in the most efficient recovery methods?

A. Mr. Stovall, I didn't hear all of your comments, and I apologize for that, but from the latter comments that I heard and the ideas that Mr. Kellahin expressed, I believe that adequately covers our position and should adequately cover and protect correlative rights in this area for future development.

MR. STOVALL: That's all I have.

EXAMINER STOGNER: Thank you. Any other questions? If not, you may be excused.

Anything further?

MR. KELLAHIN: We would move the introduction of Exhibit 6, which is our attorney certificate of compliance with the notice requirements for the Division in this particular case.

EXAMINATION STOGNER: Exhibit No. 6 will be admitted into evidence at this time.

If there's nothing further in Case 10392, this case 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. 10392 heard by me on 3 October 1991.

, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, 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 October 9, 1991.

CARLA DIANE RODRIGUEZ, RPR
Certified Shorthand Reporter No. 91