STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 9854

EXAMINER HEARING

IN THE MATTER OF:

Case 9854 Being Reopened Pursuant to the Provisions of Order No. R-9131; Promulgating Special Rules and Regulations in the Diablo-Fusselman Pool, Chaves County, New Mexico

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

May 16
~~March 21~~, 1990

ORIGINAL

A P P E A R A N C E S

FOR THE DIVISION:	ROBERT G. STOVALL Attorney at Law Legal Counsel to the Divison State Land Office Building Santa Fe, N.M. 87501
FOR THE APPLICANT:	WILLIAM F. CARR, ESQ. Campbell & Black, P.A. Post Office Box 2208 Santa Fe, N.M. 87504
FOR YATES PETROLEUM:	ERNEST R. CARROLL, ESQ. ARTHUR J. LOSEE, ESQ. Losee, Carson, Haas & Carroll Post Office Box 239 Artesia, N.M. 88210
FOR MARSH OPERATING COMPANY:	JAMES G. BRUCE, ESQ. The Hinkle Law Firm 500 Marquette, N.W., #740 Albuquerque, N.M. 87102

I N D E X

E X H I B I T S

HEARING EXAMINER: This hearing will come to order. We'll call Case No. 9854.

MR. STOVALL: In the matter of Case 9854 being reopened pursuant to the provisions of Division Order No. R-9831 which order promulgated temporary special rules and regulations including a provision for 160-acre spacing in the Diablo-Fusselman Pool, Chaves County, New Mexico.

This case has been readvertised and reopened to include additional provisions including the provision for administrative approval of horizontal/high-angle wellbores and the formation of oversized proration units to accommodate such wellbores.

HEARING EXAMINER: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr, with the law firm of Campbell & Black, P.A., of Santa Fe. I represent Stevens Operating Corporation, and I have two witnesses.

HEARING EXAMINER: Are there any other appearances?

MR. CARROLL: Yes, Mr. Examiner. Ernest Carroll of Losee, Carson, Haas & Carroll of Artesia, New Mexico. We're appearing here on behalf of Yates Petroleum.

Mr. Examiner, with respect to the witnesses, at this time I think the Examiner is aware that we have apparently reached an agreement with Stevens, and unless something unusual happens we do not anticipate calling a witness, although we do have some available if some problem does occur.

MR. BRUCE: Mr. Examiner, my name is Jim Bruce from the Hinkle Law Firm in Albuquerque, representing Marsh Operating Company. We have no witnesses.

MR. LOSEE: Mr. Examiner, A. J. Losee, same law firm as Mr. Carroll--it takes two of us to equalize or attempt to equalize Mr. Carr--also appearing on behalf of Yates.

HEARING EXAMINER: Are there any other appearances?

Will the two witnesses for Stevens please stands to be sworn at this time.

(Thereupon, all witnesses were sworn.)

HEARING EXAMINER: Mr. Carr, please proceed.

MR. CARR: Mr. Examiner, I have a brief opening statement.

This case involves what we believe is a unique reservoir in Chaves County, New Mexico. It is

a prolific reservoir with a gas cap, an oil column, and it's a water-drive reservoir.

It was the subject of a hearing in February of this year, and following that hearing the Division entered Order R-9131, which created the Diablo-Fusselman Pool and promulgated temporary rules for 90 days for the Pool including a gas/oil ratio of 6500 to 1, 160-acre spacing, 660-foot setbacks from the outer boundary of the dedicated acreage, and a depth bracket allowable of 384 barrels a day.

During the interim, we have been obtaining data and developing information on this reservoir, and we are before you today with considerably more information than we had 90 days ago.

Following the hearing, an application for hearing de novo was filed by Yates. We have also, since that time and most particularly today, been meeting with representatives of Yates Petroleum Corporation.

We will today be presenting a proposal, in which I think Yates concurs, seeking a continuation of temporary rules for a four-month period of time, rules that will provide for 80-acre spacing, an 80-acre depth bracket allowable of 222 barrels of oil per day, a continuation of the 6500 to 1 gas/oil ratio, and a

provision for setbacks from the outer boundary of dedicated acreage of 330 feet unless the offsetting acreage is a different lease, at which time the setback would be 660 feet.

Stevens is also going to be requesting approval of a procedure whereby horizontal drilling of wells may be administratively approved in this area. These rules will also be effective just during the next four months, and these rules will provide that the horizontal wellbore be at least 100 feet from the outer boundary of the dedicated 80-acre proration unit.

That is, I think, a summary of what we're going to be seeking. I have two witnesses. My first witness is Mr. Ahlen.

JACK AHLEN,

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

EXAMINATION

BY MR. CARR:

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

A. My name is Jack Ahlen.

Q. Where do you reside?

A. Roswell, New Mexico.

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

A. Stevens Operating Corporation as a consulting geologist in this matter.

Q. Have you previously testified before the Division and had your credentials as a geologist accepted and made a matter of record?

A. Yes, sir, I have.

Q. Are you familiar with the applications filed in this case?

A. Yes.

Q. Are you familiar with the Diablo-Fusselman Pool?

A. Yes.

MR. CARR: Are the witness' qualifications acceptable?

HEARING EXAMINER: Are there any objections?

MR. CARROLL: None.

HEARING EXAMINER: The witness is so qualified.

Q. Mr. Ahlen, have you prepared certain exhibits for presentation in this hearing today?

A. Yes, I have.

Q. Would you refer to what has been marked as

Ahlen Exhibit 1, identify this and review the information on this exhibit for the Examiner?

A. My Exhibit 1 is a structure contour map on a Pennsylvanian marker, which is near the unconformity between the Pennsylvanian, the Mississippian and the Fusselman, whichever happens to be at the unconformity.

The map is based on five subsurface points, being an old well drilled by Honolulu back in the early 50s, located in the southeast of the southeast of Section 16 in 10 South 27 East, consisting also of two wells drilled by Yates, located near the center of Section 21, same Township; two wells drilled by Stevens, being in the northeast of the northwest quarter, and the northwest quarter of the northeast quarter of Section 28. The datums of those wells are posted slightly to the right and below those particular wells.

The contour map is also based on seismic information which was derived from two north/south seismic lines and five east/west seismic lines, and they are noted on the map with the dashed lines. You will note that the producing wells are near the top of the structure, the dry hole is over on the flank of the structure.

Q. Why are you using the Pennsylvanian as opposed to the Fusselman or the Montoya formation?

A. The Pennsylvanian marker is the last reasonably continuous seismic event on all of the profiles. The preMississippian horizons are extremely difficult, and experts in the field differ significantly as to the exact correlations and the contours on the structure maps.

Q. Does this exhibit show the location of any faults in the area?

A. It does not show the location of any faults. It intimates faults on the east side as well as on the west side.

Q. Do you have anything further to present from Exhibit 1?

A. No, sir. Well, the land situation, you will note that Stevens and Hanson have leases in Section 33, Stevens and Hanson in Section 28, Yates Petroleum in Section 21, and Stevens and Hanson again in Section 16 to the north.

HEARING EXAMINER: Mr. Carr, before we go any further, let me ask:

Mr. Ahlen, you mentioned Yates had one of the wells in Section 21 that you referred to. Which well? I see two, one marked "3" and one marked "6."

THE WITNESS: Those are the two I referred to. 3 is the discovery well in the Pool. It's the Yates Pathfinder No. 3, AFT. The other well is the No. 6 Pathfinder, a more recently drilled well.

HEARING EXAMINER: Was the No. 1 and 2 of Hanson's drilled after the discovery but before the No. 6, or were they intermixed?

THE WITNESS: The Stevens No. 1 was drilled after the No. 3 AFT but before the No. 6. The No. 6 and the No. 2 were drilled at approximately the same time, but slightly different.

HEARING EXAMINER: Okay. I wanted to catch that. Thank you, Mr. Carr.

Q. Mr. Ahlen, I would like you now to go to Exhibit 2 which is a cross-section displayed on the wall, and if you're more comfortable, would you go up there and review the information on this exhibit for the Examiner.

A. Let me try it from here. Exhibit 2 is the large illustration on the left, on the board. In the lower right is illustrated an index map showing the location of the cross-section itself in Township 10 South, Range 27 East. It also shows shallower wells that are drilled in that particular locality. All of those shallower wells are San Andres wells, and they

do give a suggestion as to what the deep structure might be, but there certainly is not a direct correlation.

The north is on the left of this cross-section, south is to the right. The old dry hole is the well on the extreme left of the cross-section.

I have marked on this cross-section various stratigraphic horizons. Starting at the top I have marked the Pennsylvanian structure marker which is the correlation point on the geophysical map we just looked at. Immediately below that is the Fusselman, the eroded top of the Fusselman lime on the four wells to the right. It's also colored yellow, the top of that marker is colored yellow. That is an erosional unconformity with Pennsylvanian resting directly on the preMississippian sediments. There is a disagreement between Yates and myself on that exact relationship, but it is an academic argument rather than anything else.

The well on the left has a thick Mississippian section present, but it still is an unconformity at the base of the Pennsylvanian.

The well on the left is down-thrown, a major regional structural fault to the left, down to

the north.

The discovery well on the cross-section is the center well, and you'll note that it's structurally higher on the top of the Fusselman than any of the other wells, yet it's structurally lower on some of the deeper horizons, such as the preCambrian, which is the bottom correlation line there.

And then I have what I call a Montoya structural marker, that may or may not be at the exact top of the Montoya. In red I've colored what I'm calling "max porosity." It merely means that this is a zone we note in all of the wells across the structure, and it does carry some extremely good porosity. The porosity ranges on up to 20 to 22 percent. It will average 16 percent through that interval that I have marked in red.

There is an additional marker immediately below the red which is a chert zone that seems to be continuous through the Pool as well. It's a structural marker as well as a lithologic marker that can be correlated. I've used a color scheme of yellow for gas cap, green for the oil column. The dashed red and green is in a transition zone between the solid oil production and solid water production--

HEARING EXAMINER: You mean blue and green,

don't you?

THE WITNESS: What did I say? You need to listen to what I mean.

HEARING EXAMINER: I'm sorry, go ahead.

A. On the bottom is a solid blue line, which is very definitely water below that with no oil production. I have determined that transition zone is based on electric log and saturation values as well as production testing in the various wells, as well as sample log characteristics, the samples themselves, whether they carry an oil stain or not.

What else do I need to cover on that? Okay. I have an oil/water contact, and I need to get up there close to that to see what the number is. The gas/oil contact at approximately minus 2524 datum, the top of the oil water transition zone is minus 2757, and the bottom of the transition zone minus 2750. You can see we have approximately 60 to 65 feet of oil column, and then everything above that is definitely in the gas.

Now, one of the reasons we asked for the extension of time was to do some discovery as to whether the gas column was solid gas or not and whether that section was oil-saturated. From the testing that had been done on the Stevens No. 1 well,

it appeared as though the gas column might have some oil saturation, and that moving the oil up into the gas column would have no effect on ultimate recovery. We have discovered subsequently that the gas column is not oil-saturated.

The next exhibit will show some core analyses that we took in the No. 2 Stevens well showing zero oil saturation in the gas column.

Q. Was there a problem with coning in any of these wells when they were completed?

A. Yes. Initially in completing the wells, while we were testing the Stevens No. 1 well we had perforated most of the section from the top of the gas down into the oil, and we had left about a 10-foot interval right at the gas/oil contact that had no perforations. We tested below what we considered the gas/oil contact and we recovered a significant amount of oil but, at the same time, we had lots of gas, greater than two million cubic feet of gas per day, along with the oil.

Q. Any water?

A. Yes. Water has since significantly increased. Our current production exceeds 500 barrels of water per day with approximately 50 barrels of oil and gas in excess of two million a day. The

excessively thick gas column, the thin oil column and the very active water drive has caused significant coning, both down from the gas and up from the water.

Now, at that particular location we may be just particularly well-fractured, and that might be what the problem is. However, I understand that Yates is having exactly the same problem with their two wells. They're having excessive water production or excessive gas production where they should not be.

Our second well, the Stevens-McBride No. 2, we set casing into the oil zone approximately 15 feet and then drilled out. We set 7-inch casing. We had trouble landing it on bottom so it didn't quite get on bottom, so we have approximately 25 feet of open hole in the bottom of that well.

It just so happened that the bottom of our hole was in the outstanding porosity that we see correlated across the cross-section here. The shows were extremely good. We drilled out 10 additional feet and that particular well is capable of producing in excess of 800 barrels of oil a day without any gas or without any water. But we have never done that. That was a single, one-hour test. It currently is producing a little over 200 barrels of oil a day and approximately 15 to 20 barrels of water a day with a

gas/oil ratio of approximately 400 to 1. We have insignificant water problems and no gas problems. We were extremely fortunate or extremely smart. We prefer to think the latter. Any other questions on it?

HEARING EXAMINER: While we're on that No. 2, was there any stimulation done?

THE WITNESS: Natural. No stimulation whatsoever.

HEARING EXAMINER: How about on the No. 1?

THE WITNESS: Yes, we acidized that. It was a very slow acid soak, but nevertheless we did get communication. We don't know whether it's communication in the cement sheath or through major fractures remote from the borehole some 5, 10, 20 feet.

HEARING EXAMINER: Both wells are producing today?

THE WITNESS: Yes, sir.

HEARING EXAMINER: And they have been producing since they initially came on? There has not been a shutdown period?

THE WITNESS: There had been testing done, but they did not go on production until the pipeline was in place, and there was some delay in that.

HEARING EXAMINER: When did the pipeline come into place?

MR. STEVENS: Mid-February.

MR. BONEAU: February 21.

MR. STEVENS: February 21.

HEARING EXAMINER: Mr. Carr, you may proceed.

Q. Mr. Ahlen, let's go to Exhibit No. 3. I would ask you to identify that and review the information for the Examiner.

A. Exhibit No. 3 is a core report from Core Laboratories in Midland, Texas. It starts out with sample No. 3 through 13. We have approximately 11 cores that were taken in the No. 2 well before we set casing. These cores are the rotating diamond core, side wall coring. I went approximately one-inch in diameter and anywhere from a fraction of an inch up to an inch-and-a-half long depending upon the particular recovery. You'll note in the third column from the left the depth of each particular core.

The next column shows the permeability of that particular piece of core. You'll notice an abbreviation, TBFA, that means "too broken for analysis." Permeabilities, as you'll note, are quite low, and it's quite possible that they're not entirely

representative of the interval. Porosity varies from a little over 10 percent to a 10th of 1 percent through the interval.

The thing of most interest to me, though, is the saturation of the pore volume for oil. You'll note that sample 12 and sample 13 have 33 and 39 residual oil saturation in them respectively. Those are the two samples from what we've called the oil zone, and they're from the outstanding porosity zone as well.

The next two samples up the hole at 6342 and 6334 are in a thin transition zone between the oil and the gas, and they have 19 and 9 percent residual oil saturation.

The rest of the oil saturations above that are essentially zero, except for the one at 6311, that you see is 2 percent. I still think that's a relatively insignificant amount of oil.

So it is obvious that there is very little oil in the gas column. This is one of the primary things we wanted to determine with the previous testing period in the 90 days we asked for at the previous hearing. The other columns are relatively self-explanatory.

I would like to talk about the description

of the samples. You'll note that this is essentially dolomite. Sample-wise you can determine the presence of oil or not on the basis of the type of fluorescence and the staining. You'll note that the last four entries do have blue/white, blue/white, yellow/white and blue/white fluorescence in them, whereas the other samples do not have a reasonable amount of fluorescence.

Any questions?

HEARING EXAMINER: In that one that you had the insignificant show at 6311, it had a trace of yellow. Does that still represent your insignificance or what is that showing us?

THE WITNESS: I think so, yes, sir. When you study the data statistically, that's a small difference in information.

HEARING EXAMINER: No other questions. Mr. Carr.

Q. All right. Let's go to Exhibit No. 4, the east/west cross-section. And if you'll go to the exhibit and review it for the Examiner and note how a horizontal hold might be located in this formation?

A. This is also a structured cross-section datumized, however it goes east/west rather than north/south, and it goes east/west through the two

Stevens wells.

This is the Stevens No. 1 McBride, this is the Stevens No. 2 McBride. The index map immediately below shows the Stevens No. 1 well at this location in the center of the northeast quarter of the northwest quarter, and the No. 2 McBride in the northwest quarter of the northeast quarter. It is not in the center of that. It had to be moved because there was a pipeline and a power line in the way, and it had to be set where it is on the basis of surface obstructions.

Both wells are essentially 660 feet from the common boundary between the Yates leases and the Stevens and Hanson leases.

The proposed directional drilling will be done in the No. 1 well in essentially a westerly direction. The aiming point will be approximately a thousand feet from the borehole in a direction of 260 degrees azimuth, which is slightly south of straight west.

Now, if you'll recall from the seismic map, the crest of the structural anomaly is between the No. 1 and the No. 2 McBride. This cross-section reflects that information--it's an interpretation of that data--and relatively steep dip eastward into the

McBride No. 2 well where we intersected the outstanding porosity at the ideal location. Then it dips to the west on the other side of that, through the McBride No. 1, in a relatively simple anticlinal fold to the west at a lesser degree. We anticipate that the best porosity that we are completing in the No. 2 well will be intersected approximately 800 to 1,000 feet west of the McBride No. 1.

Now, we realize that we are projecting a very simple structure here in an extremely complex area, and it may not be exactly as we have depicted it here. But this is what I would consider to be a reasonable interpretation of the data.

Our horizontal hole will be initiated by squeezing all of the perforations in the No. 1 McBride well. We will make a standard attempt to complete the McBride well out of the oil zone only. However, our experience in the past is such that we do not expect that to succeed. We expect that it will still have significant quantities of water, relatively low quantities of oil and a high gas/oil ratio.

If that is the case, we plan to plug back to approximately the base of the chert zone, which is a stratigraphic marker in this area, we will cut a window in the five-and-a-half-inch casing and do

what's called an intermediate radius deviated hole, using a diameter of approximately 100 feet. We will go out of the casing and have completed our 90-degree turn within 100 feet vertically, as well as 100 feet horizontally out the hole.

Now, this is a true scale representation of that procedure. We'll then proceed to drill the hole out 900 feet or as far as we think appropriate to intersect the maximum porosity zone. Hopefully, we'll be successful in doing that.

Now, even if we're not successful in reaching the maximum porosity zone, we'll still cut a multitude of porous zones that will be within the oil column, and it will significantly increase the length of the drainage area and significantly cut down the pressure drop that causes coning, which is the main problem that we find in this area.

Q. Do you have anything further to present with this exhibit?

A. No, sir.

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

A. Yes, they were.

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

4.

HEARING EXAMINER: Are there any objections?

MR. CARROLL: None.

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

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

A. No, sir.

MR. CARR: I have no further questions.

HEARING EXAMINER: Do the team of Losee and Carroll have any questions?

MR. CARROLL: We don't have any questions of Mr. Ahlen at this time.

HEARING EXAMINER: Mr. Bruce? I guess he left.

EXAMINATION

BY HEARING EXAMINER:

Q. I want to refer to Exhibit 4, Mr. Ahlen. You propose that horizontal portion to be in a westerly direction?

A. Yes, sir.

Q. Has that been determined at this point or will there be more evaluations of the hole to substantiate that direction, or is that still open?

A. The first thing we will do will be to measure the deviation of that hole, and the direction, and how far it has gone. That will be done by Christianson/Eastman and they need to tell us where the bottom of the hole is with respect to the surface location.

If we are closer to the lease line than that 660 feet or the surface location, our initial exit from the casing will be in such a direction as to go away from the Yates acreage at a greater angle so that we get away from a conflict of--how should I say that?--so that we do not drain the Yates acreage excessively, and then we will aim for the spot that's 260 degree azimuth at approximately 1,000 feet from the borehole.

Q. Let me ask about horizontal drilling in this Pool regardless of political bounds, I should say. A horizontal well in this pool, in your opinion, is to--okay, we have the crest running north and south?

A. Yes, sir.

Q. Is it to go off the crest or would it be better to have the horizontal hold running with the crest, in your opinion?

A. I think it would be best to have it running

across the crest, away from the crest, to take advantage of the porosity zones as they come off the structure, intersect as many porous zones as possible while attempting to get to the maximum porosity zone, and remaining in the oil column.

The essential ingredient is that you stretch the draw-down area from the, perhaps, 20 feet that one normally would perforate this interval, multiply it tenfold or twentyfold or thirtyfold so that the draw-down is not nearly as steep.

Q. Are you proposing--and there again we're referring to Exhibit 4 and your particular wellbore--to stimulate in any way, or could you go into a little more depth on the completion portion of this?

A. We will attempt to do it natural, as we have on the No. 2 well. It has made an excellent well without any stimulation whatsoever.

Q. Will it be completed with a slotted line or a perforated--

A. Yes, sir. There will be engineering testimony in just a few minutes concerning that.

HEARING EXAMINER: Then I'll reserve those questions on the particular completion and drilling of that particular well to that witness.

I have no other questions of Mr. Ahlen at this time. I may have some later. We'll reserve the right to recall him at any point.

Mr. Carr?

MR. CARR: Is Mr. Ahlen excused at this time?

HEARING EXAMINER: Yes, unless there are some other questions of him.

MR. CARROLL: We have no questions at this time.

HEARING EXAMINER: And we received Exhibits 1 through 4?

MR. CARR: Yes, sir.

HEARING EXAMINER: Mr. Carr?

MR. CARR: At this time I would call Mr. Luganbill.

BRIAN LUGANBILL,

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

EXAMINATION

BY MR. CARR:

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

A. Brian K. Luganbill.

Q. Mr. Luganbill, where do you reside?

A. In Roswell, New Mexico.
Q. By whom are you employed?
A. I am employed by Stevens Operating Corporation as a reservoir engineering consultant.
Q. And how long have you been working as a consultant?
A. As a consultant, for the past three years.
Q. Your offices are located in Roswell?
A. In Roswell.
Q. Have you previously testified before the Oil Conservation Division?
A. No, sir, I haven't.
Q. Would you briefly summarize your educational background and then review your work experience for the Examiner?
A. I graduated from the New Mexico Institute of Mining and Technology in 1979 with a bachelor of science degree in petroleum engineering.

I then went to work for Gulf Oil Corporation in their Midland office, working as a reservoir engineer, primarily on fields located in the Permian Basin of West Texas and Southeastern New Mexico. I was in that capacity with Gulf Oil Corporation for two-and-a-half years, after which I went to work for the First National Bank of Midland,

Texas, as an evaluation engineer to evaluate oil and gas properties securing oil and gas loans. I worked there for one-and-a-half years.

I went from there to an independent oil corporation in Wichita, Kansas, performing acquisition work, evaluating producing oil and gas properties for potential acquisitions.

And for the last three years I've owned my own consulting firm located in Roswell, New Mexico, and have done reservoir engineering work on wells and fields in the Permian Basin.

Q. Are you familiar with the applications filed in this case by Stevens Operating Corporation?

A. Yes, sir.

Q. Have you made a study of the Diablo-Fusselman Pool?

A. Yes, I am.

Q. Are you familiar with the proposal to horizontally--at least tentative proposal to horizontally drill a well in this Pool?

A. Yes, I have.

MR. CARR: We would tender Mr. Luganbill as an expert witness in petroleum engineering.

HEARING EXAMINER: Mr. Luganbill is so qualified, unless there are any objections.

MR. CARROLL: No objections.

HEARING EXAMINER: Mr. Carr.

Q. Initially, Mr. Luganbill, could you just describe the general nature of the formation that we're talking about here?

A. This appears to be a rather unique formation in this part of the Permian Basin. There are a number of dolomite formations from this depth, this geologic time period that are productive in the area, however this is the only one I'm aware of in the immediate vicinity that contains a gas cap as well as a water leg.

To the west a few miles is a recently discovered reservoir, the Comanche Springs. It contains strictly gas to the east. Approximately four to five miles is the White Ranch reservoir, which is strictly oil. To the south, approximately four miles, is the Chisolm reservoir, which is also strictly oil.

To my knowledge, in this immediate area, this is a rather unique reservoir.

Q. Would you refer to what has been marked as Luganbill Exhibit 1? Identify this for Mr. Stogner, and using this exhibit review how Stevens would go about horizontally drilling this well?

A. Exhibit 1 is a proposed wellbore schematic

of one way a horizontal well might be completed in this well. It is set on the neutron density log to allow you to see the correlation of where the various events are taking place in relationship to the reservoir itself.

As Mr. Ahlen stated previously, the current perforations will be completely squeezed off, and an attempt will be made to recomplete and see what effect that would have on the coning of this reservoir in this particular well.

In the event that that fails, Stevens anticipates getting approval for a horizontal well. And one method of accomplishing that out of this wellbore would be to set a permanent whipstock in the casing so that a window can be cut in the casing just below the chert zone. The window would be cut in the casing, the horizontal well will be drilled at an intermediate radius of 100 feet. This would be a build of 57 degrees per 100 feet.

Then an additional horizontal portion will be drilled into the reservoir until such time as the maximum porosity is deemed to have been penetrated, or probably a maximum of 1,000 feet of the reservoir. At that point a 2-7/8-inch inch slotted liner will be put into the horizontal portion of the wellbore, cemented

back into the vertical portion, and a horizontal well will be produced below packer.

Q. Would you refer to Luganbill Exhibit 2 and identify that?

A. This is an exhibit which shows what we feel has been the impact of the coning on the well, and what we feel will be the potential recovery as a result of drilling the horizontal wells.

In this type of reservoir which contains the fluid interfaces in the reservoir, there is a tendency to cone. A number of factors influence the degree that that coning takes place, and one of the primary factors is the draw-down that the reservoir sees to the wellbore. The draw-down is directly related to the producing rate at which the well is produced, and also the effective wellbore radius.

Horizontal wells are gaining more popularity in reducing tendencies to cone simply because of the fact that they put that draw-down over a longer radius and you can produce at higher rates without running the risk of coning water or gas.

This exhibit was prepared under the assumption that the 40-acre spacing was going to be what was looked at in this hearing. It is now 80 acres, but it will still apply to the 80-acre case.

It's my opinion that a horizontal well will drain 80 acres, as well as a vertical well would drain 80 acres, given a significant enough time and a small enough production rate.

The McBride No. 1, as Mr. Ahlen pointed out, is producing a high water cut and a high gas/oil ratio. Based on decline curve analysis and a projection of the oil cut versus the cumulative production on the well, it's anticipated that approximately 10,000 barrels of total oil will be produced out of this well before it's uneconomical to produce it anymore.

In comparing this to the volumetric estimates on a 40-acre basis, which shows up in the McBride No. 2 of 287,000 barrels, that means there will be an estimated loss of reserves in this particular wellbore due to the coning of 277,000 barrels of oil.

By drilling the horizontal well on an 80-acre tract, we should be able to produce the reserves lost to coning, in addition to the reserves attributable to that additional 40-acre tract, and therefore we anticipate additional reserves due to the horizontal drilling of this well of potentially 554,000 barrels of oil.

If the horizontal well is not drilled from the McBride State No. 1, that particular wellbore is essentially lost to producing the oil out of the reservoir, and we will lose that 277,000 barrels under that 40-acre tract. In reality, you would probably lose the additional 286,000 barrels attributable to the other 40-acre tract, and in order to develop those reserves you'll have to drill two vertical wells under the previous proposal--one well under the current proposal.

Q. So basically what this exhibit is, is an estimate of the benefits that you believe can be derived from horizontal drilling in this pool?

A. Yes.

Q. And the figures you've shown for the McBride No. 1 and No. 2, in your opinion, would the same sort of benefits also be available to other wells in the reservoir?

A. They should be applicable reservoir-wide.

Q. Is Stevens seeking temporary rules that would permit horizontal drilling during the next four months?

A. Yes, sir.

Q. Could you refer to what's been marked as Luganbill Exhibit 3, and identify that, please?

A. This is the proposed procedure for approval of horizontal drilling in the Diablo-Fusselman Pool. It's simply the proposed procedure so Stevens can go through, or any operator, for that matter, can go through and gain administrative approval for horizontal drilling in the reservoir.

Q. Is it Stevens' recommendation that these rules be on a temporary basis for four months?

A. That's correct.

Q. And they require that a well be drilled from a standard location or an approved unorthodox location?

A. Right.

Q. Notice of any proposal would have to be given to offsetting operators, is that correct?

A. That is correct.

Q. And they would have the opportunity to object?

A. That is correct.

Q. This also provides that the borehole shall be no closer than 100 feet to the outer boundary of the proration unit?

A. Yes, sir.

Q. That would apply both to the end of the borehole or any portion of the borehole, is that

correct?

A. That's correct.

Q. And that the borehole should be no closer than 660 feet to an offsetting tract, is that right?

A. Yes, sir, that is right.

Q. And would that apply to any offsetting tract or just to an offsetting tract, if it was a different lease?

A. That would apply to an offsetting tract, if it is a different lease.

MR. CARR: Mr. Stogner, there's something missing from these proposed rules. What we've discussed with Yates and, I think, all parties are in agreement on, is that the borehole would be no closer than 660 feet to an offsetting lease, but if it's within the same lease it could be within 330 feet of the outer boundary of the 80 acres: is that correct, Mr. Losee?

MR. LOSEE: I think that's what we said.

MR. CARR: I'm misreading Rule 2.

Q. It does provide that the borehole should be no closer than 100 feet to the outer boundary of the proration unit unless the offsetting tract is a different lease, then it would be 660. That correctly states the agreement?

A. Yes.

MR. STOVALL: Mr. Carr, when you're referring to borehole here, this is the horizontal portion of a highly deviated well?

MR. CARR: Yes, that's correct.

Q. Mr. Luganbill, just to review the recommendation, in your opinion would 80-acre spacing for an initial four months enable the operators in this Pool to continue to develop data and information that could be utilized in the adoption of permanent Pool rules?

A. Yes, it would.

Q. It is the recommendation of all the parties that a standard depth bracket allowable of 222 barrels per day be allowed for each 80-acre tract?

A. Yes, sir.

Q. A gas/oil ratio of 6500 to 1 should also be maintained during this period of time?

A. Yes, sir.

Q. And the setbacks as provided, 660 feet for vertical holes if it's offsetting a different lease would be applicable?

A. Yes.

Q. 330 feet would be the setback for vertical holes if it's within the same lease, is that correct?

A. Yes, sir.

Q. And horizontal holes could encroach if they're within the same lease too, within 100 feet of the outer boundary?

A. Right.

Q. In your opinion, if these rules are adopted on a temporary basis, would it serve the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, sir, it would.

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

A. No.

Q. Were Luganbill Exhibits 1 and 2 prepared by you?

A. Yes, sir.

Q. Exhibit 3 is a copy of the proposed rules?

A. Yes, sir.

MR. CARR: At this time, Mr. Stogner, we would move the admission of Luganbill Exhibits 1 through 3.

HEARING EXAMINER: Are there any objections?

MR. CARROLL: No objection to the admission of these exhibits.

For the record, Mr. Examiner, I know Mr. Carr has asked Mr. Luganbill if all parties agreed to these, and I want the record to clearly show that these recommendations were arrived at through consultation with Yates Petroleum, and the statement made representing that Yates was in agreement is correct.

MR. CARR: At this time I would move the admission of those Luganbill Exhibits 1 through 3.

MR. CARR: Stevens' Exhibits 1, 2, 3, marked Luganbill, will be admitted into evidence at this time.

MR. CARR: The only other thing I would like to do is offer what has been marked Stevens Exhibit 1, which is an affidavit from Campbell & Black, with attached letters confirming that notice has been provided of this hearing, as required by Rule 1207.

HEARING EXAMINER: The addresses marked on Exhibit A, these are offset--

MR. CARR: These are the operators within the Pool or within a mile of the Pool, the owners of unleased mineral interests.

HEARING EXAMINER: Okay. The exhibit marked Stevens will be admitted into evidence at this

time.

MR. CARR: I have nothing further of Mr. Luganbill.

MR. CARROLL: We have one question Mr. Losee would like to ask him.

EXAMINATION

BY MR. LOSEE:

Q. I'll direct this to Mr. Luganbill, and maybe his counsel or Mr. Stevens can answer it.

I refer you to paragraph C of your proposed administrative procedure for horizontal drilling, to provide that at the conclusion or during drilling you would furnish not only--it says, "Submit a copy of said survey to the Santa Fe and appropriate district offices."

I would envision you might run more than one survey during that time, and I would ask, would you have any objection to amending it to say "copies of all surveys"?

MR. STEVENS: No problem.

MR. CARR: We'll be glad to do that.

MR. LOSEE: Nothing further.

HEARING EXAMINER: We'll just change that to show "submit a copy of all surveys."

Mr. Carr, any questions?

MR. CARR: No. We would be happy to have the rule amended in that regard.

HEARING EXAMINER: Mr. Carroll, Mr. Losee, any other questions?

MR. CARROLL: No.

EXAMINATION

BY HEARING EXAMINER:

Q. Mr. Luganbill, let's look at Exhibit 2. Help me a little bit on McBride No. 1. You show 40 acres total estimate reserves, 9,543 barrels of oil, and I'm getting a little confused here. I look down to estimated loss of reserves due to coning, gas and water, which is a lot bigger number.

Whenever you talk about estimated reserves, is that recoverable reserves from a vertical well or what?

A. Basically what I did on this was took a volumetric estimate of the total reserves in place, and then based on recovery factors seen in offset reservoirs, applied that recovery factor to this reservoir on a 40-acre tract.

The recoverable reserves on a 40-acre tract based on those recovery factors is shown on the McBride 2, 40-acre total, which would be 287,000 barrels approximately. That should also apply to the

McBride No. 1.

Based on the decline curve of the oil from the McBride No. 1, as well as a plot of the oil cut versus cumulative production from the McBride No. 1, it's estimated that in actuality only 9,543 barrels of oil will be produced out of that well before it becomes uneconomical to produce anymore.

Therefore, based on the recovery factor, we should be seeing the coning effect on the well is a loss of 277,000 barrels of oil.

Q. Okay. Let's go to Exhibit 1. This is a building and an angle of the intermediate curved portion, 57 degrees per hundred feet, did you say?

A. Yes.

Q. I have been out of the business for a while. Will that be done with a mud motor or rotary?

A. That portion will be done with a mud motor.

Q. Okay. That's a 4-3/4-inch hole, and you propose to run 2-7/8-inch tubing liner at the curved portion, is that correct?

A. Right.

Q. And that will be cemented all the way back into the curve?

A. Into the vertical wellbore.

Q. And that will be a slotted liner? Is it

just going to be tubing with slots in it or perforations, or is this going to be a Johnson type?

A. It will be a 2-7/8-inch slotted liner.

Q. I'm going to ask a question--and, Mr. Ahlen, you can answer it or Mr. Luganbill.

We have our horizontal wellbore, and the purpose of this is to help alleviate coning, but you're going from one porosity zone to another, a higher porosity zone. Is it safe to assume that the zone of maximum porosity is more than likely going to cone quicker than the lower porosity zones?

A. It's my opinion that the maximum porosity zone will not cone as quickly as the lower ones, simply because you have a higher horizontal permeability in the maximum porosity zone. So your horizontal to vertical ratio is less than it's going to be in your minimum porosity zones, therefore your tendency to cone is going to be less in the maximum porosity zone than it is in the smaller one.

MR. AHLEN: I concur.

Q. When we start seeing water and flux due to coning, we're going to see it back toward the vertical, is that what you're telling me?

A. In all likelihood, yes.

Q. I was visualizing it the other way around.

So if this well waters out, that's it?

A. At that point there's not a whole lot else you can do.

HEARING EXAMINER: Mr. Carr, is this the extent of your testimony today that you're going to present?

MR. CARR: Yes, sir.

Q. I've heard a lot today about spacing in the oil zone, but I haven't heard that much about spacing the development portion of the gas cap. And I'm speaking my thoughts now. The best way to develop this is to get the oil out of there first, am I correct?

A. Yes.

Q. What about the spacing in the gas cap? Is 160 the optimal or do we need to go the 80 there also? How is that proposed?

A. At some point in the future there will be an eventual blow-down of the gas cap, and I think that will be better addressed at that time. I would anticipate that 160's or 320's even would eventually be able to produce the gas cap, but that's not to be addressed at this time, I don't believe.

Q. But we do have some wells that are producing from the gas cap presently, correct?

A. Yes.

Q. Would those go to 80?

A. Those would go to 80, but they would have the 6500 GOR, temporary.

MR. CARR: These rules would be in effect for just a four-month period of time?

THE WITNESS: That is correct.

Q. Do you feel there will be any reservoir damage that is going to result by going with the 80-acre spacing for a four-month period of time while this additional data is being accumulated?

A. No, I don't think there will be additional reservoir damage or loss of recoverable reserves in a four-month period of time.

EXAMINATION

BY MR. STOVALL:

Q. Can you say to your knowledge, working for Mr. Stevens, whether he has plans to drill any additional wells during this four-month period, or is the bulk of the effort going to be directed to getting this horizontal well completed and tested?

A. It's my understanding at this point in time the bulk of the effort is going to be concentrated on this horizontal drilling effort, plus gaining additional information on the reservoir in general,

the pressure information, PVT data, and that type of thing. That will probably take the bulk of four months just to do all that.

Q. No EPD's pending at this time?

A. Not that I'm aware of.

MR. STEVENS: I'd be happy to answer.

MR. STOVALL: You're not under oath, Mr. Stevens.

Q. What is being proposed today is to take a Pool, which is now under 160-acre spacing, to 80-acre spacing. Do you know whether or not there are going to be any interests which are eliminated, any revenue interests which are eliminated from any wells as a result of the reduction in spacing?

A. I do not know that.

MR. STOVALL: Mr. Carr, do you have somebody? Perhaps Mr. Stevens needs to be sworn and answer a few of these questions.

MR. CARR: Mr. Stevens is here.

MR. STOVALL: If he's capable of answering them, then I think we're going to need to do that.

MR. CARR: Yes, and I think he can.

MR. STOVALL: We'll get to him in a moment. Let's do this.

Q. Are you aware of any Pool in the State in

which the well setback or spacing requirements are based upon lease ownership?

A. No, sir, I'm not that familiar with the rule.

Q. That is being proposed in this case, is it not?

A. I believe it is, yes.

Q. What is your understanding of the rationale for that type of provision in the rules?

A. Could you rephrase the question?

Q. If I understand, with respect to the horizontal well in particular, you're asking that the wellbore be no closer than 100 feet to the outer boundary of a proration unit unless the offsetting tract is on a different lease, in which case it's no closer than 660. So the location requirement for that horizontal wellbore is really dependent upon who owns the property next door, is that not correct?

A. That would be correct.

Q. What is the basis for that request? What's the rationale? What justification, in terms of conservation, prevention of waste and protection of correlative rights can you make for that?

A. Ideally you would want to drill your horizontal wellbore as long a distance into the

reservoir as you possibly can. In this instance there's nothing to prevent an offset operator from doing the same thing that you are doing, and in my opinion, correlative rights will be preserved.

Q. McBride No. 1 is the well you're entering, is that correct?

A. Yes.

Q. What proration unit do you propose to establish for that?

A. At this point it really hasn't been decided. At this point it can go a lay-down 80 or a stand-up 80. We're not specifically asking a particular proration unit at this point in time.

Q. Do you happen to know the footage distances of that well?

A. No, sir.

MR. AHLEN: 1980 and 660.

A. 1980 and 660.

Q. You got that information from Mr. Ahlen, is that correct?

A. From Mr. Ahlen.

Q. That's in the south half, is that correct?

A. No, it's in the north half of the northwest quarter.

Q. So in effect, that well location is 1980

feet from the furthest end of either proration unit? Is my arithmetic and understanding of land surveys correct?

A. No.

Q. If you have a north half of the northwest quarter proration unit, it's a horizontal lay-down unit, you're 1980 from the west end of that tract?

A. That would be correct in that case.

Q. If you have an east half of the northwest quarter, does that not also make you 1980 from the south line of that proration unit?

A. Yes, that would.

Q. Well, you could go a thousand feet in either direction and still stay 660 away from it?

A. That's correct.

Q. With respect to, let's say, the width of the proration unit, if you deviated laterally the short width of the proration unit, your rules don't anticipate you could move within 100 feet of a proration unit boundary within a common lease in that manner, do you? Or do you? Is that your anticipation? Do you follow what I'm saying or do we need to make a diagram?

A. I understand what you're saying. You could still be within 100 feet of that.

Q. So it's 100 feet anywhere around as long as you've got a common lease?

A. Right.

Q. What's your proposal for a vertical well, the well location on the vertical well? Is there a proposal to modify the rules with respect to a well location on a vertical well? I know I've heard some conversation outside this hearing, but are you making any specific proposal at this time?

MR. CARR: 660, unless it's within the same lease, and it's 330.

Q. If I understand this correctly, and make sure you agree that this is what the case is, because I'm now asking for your engineering knowledge once we get through with the location, you're saying a well will be spaced 660 feet from the outside boundary of the proration unit, but it may be as close as 330 feet to the outside boundary of a proration unit if the offsetting tract in that direction is a common lease with the proration unit?

A. That's correct.

Q. What's the rationale for that? Is that the same as with a horizontal well?

A. No, sir.

Q. As a petroleum engineer, what reason can

you give me for allowing you to move your well closer if you're moving on the same lease, than if you're moving on a different lease, other than the fact, obviously, that you're draining yourself and not somebody else?

A. You're right.

Q. There's a broader concept of prevention of waste.

A. This isn't necessarily saying that you're going to drill a well at 330 feet. If the operator determines that's the best way to drain the reservoir at that point under his acreage, that might be the proper place to place that well. But it's not necessarily saying that it's going to happen.

Q. Why does that become a different question depending on who owns the offsetting tract? Do you understand the purpose of a well spacing is to attempt to drain most efficiently the entire proration unit?

A. Yes.

Q. And are you not defeating that purpose if you're now allowing it to get further away from the center of the proration unit simply because there's less of a correlative rights impact because you happen to be on the same lease? What engineering justification can you give for that?

We'll get to you, Mr. Ahlen. We'll give you a chance to get back on the stand.

I understand there may be some geological reasons, and I'm sure Mr. Ahlen would love to address those. He chomps at the bit there. But why are those reasons different depending on who owns the lease? This is a unique concept in OCD history as far as writing location rules for a well.

A. I haven't looked at that aspect of it.

MR. STOVALL: I suspect we may have to call Mr. Ahlen back.

MR. CARR: I think you're going to have to, because I think that's where the answer will come from.

Q. Let me go back to the horizontal situation for a moment. Looking at the distance situation, in your opinion as an engineer, would not my questions be applicable as well to a horizontal wellbore, that the more you're going to keep it towards the center of a proration unit, the more likely you are to drain the entire proration unit?

A. Yes, that would be correct, under standard, ideal conditions, reservoir engineering conditions, that would be correct. If there were other conditions that prevailed, other than just strictly if the

reservoir was homogeneous throughout that proration unit, and extended beyond that proration unit, what you're saying would be correct.

Q. And then I kind of suspect what I'm going to hear from Mr. Ahlen is that there may be some structural or geological situations that exist in this reservoir which might dictate that the best well location is not necessarily in the center of a proration unit, but you may want to hit a more structurally, or whatever, advantageous location. And the current way to do that under normal Pool rules is you apply to the Division for an unorthodox location.

Why should that not be the procedure here, go through the normal procedure which is currently in effect for all Pools in the state, rather than create this rather unique beast based upon--

A. I believe there is a provision in there that it could potentially be an unorthodox location, and you would have to go through that the procedure.

Q. What I'm saying is you've now got one location that's orthodox--not based on geology or anything else, but based upon ownership of adjacent pieces of land, if you will. As an engineer, as a scientist, is that a proper basis for going to a different set of rulings?

A. That, strictly alone, probably would not be.

MR. STOVALL: I don't think I have any further questions for this witness.

HEARING EXAMINER: Are there any other questions for Mr. Luganbill?

If not, you may be excused at this time.

We'll call Mr. Ahlen back to the stand.

JACK AHLEN,

recalled to the stand, testified further as follows:

EXAMINATION

BY MR. STOVALL:

Q. I know you've been listening intently to all my questions, and you're ready to answer them?

A. I think that you responded to them while you were asking them, in most instances.

The vagaries of structural position significantly have an effect on recovery of oil from different parts of the reservoir. In some instances you might deviate from a random access to acquiring the oil to a specified--if you think you know enough about the reservoir and you want to cross faults or fractures, or a significant number of faults and fractures, one could utilize one direction for your deviated hole, or if you wanted to maximize your

height for a particular zone, that would be another reason for deviating your hole.

The standard center of a 40 is at best just a statistical reason to drill your well there. It certainly has nothing to do with the geological circumstances of the reservoir if it's a nonhomogenous reservoir. That works very well in a nonhomogenous reservoir that's typically a clastic sediment, like the sandstone.

In lots of places, sandstones have random porosity so that that's a good method. We know very well in the Permian Basin that sandstones have many vagaries. We're dealing with a carbonate reservoir right here, and there can be significant deviations from random locations of the porosity to much better locations for the porosity.

Q. I think I understand what you're saying.

A. And at some time we might be intelligent enough to tell where that is. I don't know that we know that yet, but we're learning more and more about this reservoir as time goes on.

Q. I think I understand what you're saying, but let me ask you this. Does the nature of the ownership of various tracts change that geology in any way?

A. No, the geology was there before Stevens and Yates owned those tracts.

Q. Why should the nature of the ownership change the location or the requirements for the well?

A. Primary consideration in the 660 from opposite ownership or other ownership of a lease to preserve correlative rights across those boundaries. Stevens certainly doesn't want to get any closer than 660 to the Yates leases. That's a primary consideration because of the objection for correlative rights. At the same time we do not want Yates to get any closer than 660 feet from the common boundary as well.

Q. Is it possible that the ownership of those leases could change or be divided?

A. Not at this point, no, sir.

Q. The geology is pretty well fixed over something which none of us have control, is that not correct?

A. Yes, sir.

Q. But the ownership of interest is something which is not immutably set in carbonate, is that not also correct?

A. For the most part, in the State of New Mexico, leases change hands every ten years if they're

not held by production. So long as these leases are held by production, I doubt seriously that there will be a change in ownership of the subsurface rights or the mineral interests.

Q. Neither Yates Petroleum nor Mr. Stevens never sells a lease or buys a lease?

A. They do. But I doubt there will be any trade transacted along those lines.

Q. Not necessarily between the two of them.

My concern is, and quite frankly, that what may be fine for today may not work ten years from now. I need a justification for using leasehold ownership as a basis for creating different spacing requirements, depending on who owns the offsetting tract. I know, as a lawyer, that it's possible for that ownership to change.

To me, the existence today is not sufficient justification to use that as a basis when most of our rules are based upon--I'll grant it somewhat structured, based upon government surveys, but based upon technical scientific reasons. You may have given me a good reason to put a well in a particular location, but that doesn't give me a reason to change the requirements based upon the ownership of offsetting tracts. I'm still looking for that answer,

I guess.

A. I don't know that I know the answer that you're searching for. I do know, though, that geological circumstances can change drastically within a reservoir.

Q. I understand that.

A. We would like to reserve the right to attempt to find the best oil-producing place to prevent waste.

Q. Wouldn't that be possible if you went with our more traditional rules of let's--regardless of whether we pick 660 or 330 or something in between, is it not possible that you could come to us with an application for an unorthodox location and in fact it may not be objected to because--

A. At this time we really do not anticipate drilling within 100 feet of the neighboring proration unit. We anticipate drilling as proposed on the cross-section at an angle of 260 degrees, and that will not bring us anywhere near the 100-foot line.

Q. You're only going out about a thousand feet at the most?

A. Yes, sir. And we're talking temporary rules now for the next four months.

Q. If we change the rulings will you move the

well?

A. No way.

Q. Do you understand what my problem is?

A. Sometimes we would like to do that.

Q. We've been bantering a little bit facetiously here, but I have a serious concern about using leasehold ownership as a basis for writing location rules in a set of Pool rules. That has been the purpose of my questions of both you and Mr. Luganbill. I'm not sure I've gotten the answer yet, but you've done as well as can be expected.

MR. STOVALL: I have no further questions on that issue for Mr. Ahlen.

HEARING EXAMINER: I have questions for Mr. Ahlen, but I want to take a 10-minute recess to confer with my general counsel.

(Thereupon, a recess was taken.)

MR. STOVALL: Mr. Carr, do you wish to take the initiative in this action at this time?

MR. CARR: I'll try again. I couldn't read Rule A2.

During the break, because of the concern that obviously has been expressed by the Division concerning setting spacing based on offsetting ownership, the parties have agreed that, with your

permission, they would amend their proposal to provide for a 330 setback from the outer boundary of any 80-acre dedicated proration unit.

That would apply to the location of any well. However, with a horizontal hole, they would like to provide that the horizontal hole be no closer than 100 feet from the outer boundary of any 80-acre spacing unit.

Mr. Ahlen is on the stand, and I understand you have some additional questions of him. I can advise you that Mr. Boneau is available and will be called by Yates to explain the rationale for taking a horizontal hole to a point within 100 feet of the outer boundary of the dedicated 80-acre spacing.

MR. CARROLL: Mr. Carr has expressed our agreement correctly, and we do have Mr. Boneau and plan to present him to provide an engineering answer to the concern you've just expressed concerning this approaching the boundary within 100 feet.

MR. STOVALL: I still have a question for Mr. Ahlen.

HEARING EXAMINER: May I ask him?

MR. STOVALL: Go ahead.

EXAMINATION

BY HEARING EXAMINER:

Q. Mr. Ahlen, presently the spacing for this Pool is 160. In keeping this configuration, how would that affect the drilling of the horizontal well for the No. 1?

A. We don't propose to keep the 160-acre spacing. We propose to change it to 80.

Q. Let me rephrase my question. If spacing was to remain on 160, how would that affect the drilling of your horizontal well?

A. That would remain the same.

HEARING EXAMINER: That's all the questions I have.

MR. STOVALL: Let me ask Mr. Ahlen one other question.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. Mr. Ahlen, do you know if Mr. Stevens has plans to drill any additional wells during the four-month period?

A. Yes, probably he does, in addition to the horizontal well.

Q. That's based upon 80-acre spacing, is that correct?

A. Yes, sir.

MR. STOVALL: I have no further questions

of Mr. Ahlen.

HEARING EXAMINER: Any other questions of this witness?

MR. LOSEE: I'm not sure. I want to think just a second.

EXAMINATION

BY MR. LOSEE:

Q. Mr. Ahlen, please refer to your Exhibit 1. You probably gave this in your direct testimony.

Can you tell me the footage location of the Hanson No. 2 well?

A. It's 660 from the north, and west about 1980, and it's about 2200 from the east line.

Q. How far is it from the center line of that section?

A. About 400 feet.

Q. In the adjoining 160-section or quarter section to the north and the Yates acreage in Section 21, southeast quarter, under the existing rules could they drill a well that's a direct north offset, under the spacing rules?

A. Yes, sir.

Q. How would they get within 400 feet of that site boundary line under the existing rules?

A. You mean the proposed rules?

Q. No, the existing rules, if you left them the same.

A. Well, our location was based on the fact that we could not drill a 1980 location because the pipeline was immediately underneath that particular location. We moved the location west, and we had to change it again because the power line was in that direction, so we set it directly between the two.

I would presume that the Yates location would have the same problem with the pipeline because it goes almost north/south through there. So they would probably have to go a little bit to the east.

Q. In making that location, Stevens did not secure approval for an unorthodox location, did they?

A. I do not know.

MR. LOSEE: No further questions, if he does not know the answer to it.

HEARING EXAMINER: Are there any other questions of Mr. Ahlen? If not, he may be excused.

DON STEVENS,

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

EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record?

A. My name is Don Stevens.

Q. Mr. Stevens, are you the operator of the McBride wells which are two of the wells currently drilled and completed in the Diablo-Fusselman formation?

A. Our wholly-corporation, Stevens Operating Corporation, is the operator.

Q. How long have you been in the oil and gas business in New Mexico?

A. 33 years.

Q. How many wells do you currently operate in this state?

A. Approximately 50.

Q. You're familiar with the current development of the Diablo-Fusselman Pool?

A. Yes, sir.

Q. And the establishment of all negotiations concerning all the rules and development of this Pool?

A. I think so.

MR. CARR: Is the witness qualified to testify? I'm not offering him as a technical engineering witness, but to answer certain questions.

MR. STOVALL: He's also the proprietor of the business and the business decision-maker, so I think he's capable of making those answers.

HEARING EXAMINER: If there is no objection in that aspect, Mr. Stevens is so qualified.

Q. I would like to ask you several questions that have been previously raised in this proceeding that prior witnesses have not been able to respond to.

In terms of revenue interest, by reducing the spacing as proposed to two 80-acre tracts, are you aware of any revenue interests that are going to be eliminated from participation in any well?

A. None.

Q. If the spacing stayed on 160 acres, would that pose any problems for your plans for development of this area?

A. Yes. We plan one additional well to be drilled in this four-month period, probably a south offset to the No. 2 or the No. 1. It will be drilled vertically, initially, and possibly subsequently drilled horizontally.

Q. When you went forward with the drilling of the McBride No. 2 well, were you required to obtain approval for an unorthodox location?

A. No. That was before the field rules were promulgated and it was, by the field rules' terms, grandfathered as an orthodox location.

Q. If Yates proposed to come and offset that well an equal distance from the common boundary north of that well under existing rules, could they do that without having to obtain approval of an unorthodox well location?

A. They could not, because that would be 1980 from the east line and they would have to come in 2220 from the east line to make a due north offset.

The current rules provide a maximum of 1980 from the east line. You cannot go the 2220. I think it's something like 430 feet, our well is, from the center line. They would have to be 660 feet from their north/south center line. So the current rules would not allow them to drill that well as a due-north offset.

MR. CARR: I have no further questions. Pass the witness.

EXAMINATION

BY MR. LOSEE:

Q. You don't have any objection to them drilling one, do you, Mr. Stevens?

A. We have no objections at all.

MR. LOSEE: No further questions.

EXAMINATION

BY MR. STOVALL:

Q. I presume that means so long as they don't go horizontally south, is that correct?

A. Within the field rules as proposed, I don't think they plan to.

Q. The question I originally asked and the question Mr. Carr asked you, are there revenue interests which will be eliminated by the reduction of the spacing unit size. Let me ask another question related. Are there any revenue interests which will be changed by virtue of that size or is this a common tract with common ownership?

A. The north half is a common tract with common ownership. The south half is different. By the time we drill it, it will probably be the same.

Q. The south half is common itself, is that right?

A. Yes.

Q. If the Division elected to leave this spacing at 160 during the proposed additional four-month temporary period, how would that affect your development?

A. We would be forced to drill in the south half at a farther distance than we would prefer to drill, simply because the greater the distance the greater the geological risk, regardless of the fact

that we had considerable seismic information.

Another factor is that the current rules have 660 spacing setbacks. We would prefer to drill it on a 330 setback if we had to drill in the south half, for geological reasons. These reasons are not exact nor perfectly known, but they are indications that we have had from the seismic data and the geological interpretations thereof.

We think the current field rules would definitely affect our operations in a poor manner, a bad manner, and we certainly would not be able to drill the wells where we think they should be drilled. The result in economic waste could be considerable.

Q. Are those wells necessary to recover the reserves?

A. They're necessary eventually to recover the reserves. The well I'm proposing to drill is necessary because I've got a continuous drilling obligation from a farmouteur. If I don't drill it within the four-month period, I lose all rights to the remaining acreage within that section and in Section 16.

If I'm forced to drill on the south half, a geologically inferior location at this time, I would have to make a tough assessment of whether I wanted to

or not, versus the risk of losing all the remaining rights of the section. It would have a serious economic effect on us.

MR. STOVALL: I have no further questions.

HEARING EXAMINER: Are there any other questions of this witness? He may be excused.

Mr. Carr?

MR. CARR: That's all I have.

MR. LOSEE: We'll call Dr. Boneau.

MR. STOVALL: Mr. Losee, Mr. Carroll, I would ask whoever is going to do the examination to come to the table.

HEARING EXAMINER: Let the record show that Dr. Boneau has been previously sworn at the beginning of this case.

DAVE BONEAU,

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

EXAMINATION

BY MR. CARROLL:

Q. Could you please state your name and by whom you are employed?

A. David Francis Boneau is my name. I'm employed as an engineer by Yates Petroleum Corporation in Artesia, New Mexico.

Q. Mr. Boneau, you have testified before the Commission previously to this date, have you not?

A. Yes, sir.

Q. And your credentials have been accepted as an expert in your field?

A. Yes, sir.

MR. CARROLL: Are Mr. Boneau's credentials acceptable, Mr. Stogner?

HEARING EXAMINER: Are there any objections? Dr. Boneau is so qualified.

Q. Dr. Boneau, you have been present during the earlier part of this proceeding where certain questions were raised concerning, at least, a problem with the allowing of a horizontal wellhole to approach within 100 feet of a lease line, have you not?

A. Yes, sir, I was here.

Q. Dr. Boneau, there are several reasons why the parties, both Yates and Stevens, propose to allow A horizontal hole to approach within 100 foot of a lease line, is that correct?

A. Yes, there are reasons.

Q. Would you mind setting those reasons forth for the Commission so that they might understand our thought process?

A. I'll attempt to do that, yes. I'm sure we

all understand by now that the horizontal wells offer an excellent opportunity to recover this oil and prevent the coning of water. The horizontal wells offer that opportunity because the oil can be produced with a smaller draw-down because of the length of the horizontal wells, and the additional surface area that's open to the formation.

In order to be effective, the horizontal wells need to be long. I'll try to approach two reasons and see if they come out right.

The horizontal wells need to be long in order to increase the amount of oil that can be produced without coning. There are situations--I think maybe the McBride No. 2, which is 420 feet from the center, if you're going to make that a horizontal well going towards the middle of the formation, you've only got 420 feet to go. For that to be worthwhile he needs to come close to his center line. I'm looking down the road, but that's an example of where, for a horizontal well to do any good out of his No. 2, it's got to come pretty close to the edge of the spacing units.

I don't see any problem with it coming pretty close, 100 feet from the edge of the spacing unit. The vertical wells are routinely spaced, set

back 330 feet, and are presumed to not pull hydrocarbons from the offset lease excessively.

The horizontal wells have a reduced draw-down, and the reduction in the draw-down is a factor of 3 or 4 or 5, depending on the length of them. If you take hydrocarbons 330 feet away from a vertical well and say they've not got much of a chance of getting over there, and with a reduction in the draw-down of a factor of 3 or 4, the same hydrocarbons are not going to make it to a horizontal wellbore that's 100 feet away.

There's a factor of 3 or 4 in the draw-down, and in my mind that reduces the 330-foot setback of a vertical well to around 100 feet for a horizontal wellbore as being the equivalent place for grabbing hydrocarbons from an offset spacing unit.

That's a way in my mind that I can get a horizontal wellbore close to an offset lease not being a problem. That made sense to me. I hope it made sense to Mr. Stovall. I'm not sure what I read on his face.

Basically my point is the horizontal wells need to be long, and there are situations where they just plain have got to wiggle out there as they might, fairly close to the offset spacing unit.

My second point is, there's a pressure draw-down argument that says that 100-foot setback for a portion of a horizontal well is approximately equivalent to a 330-foot setback for a vertical well.

Q. If I might just try to put this in a little bit different contextural packaging.

What we're saying is that this is a unique reservoir. Apparently the traditional drilling of vertical wells, when you produce them as you normally would, it actually causes problems and actually causes, through this coning, a loss of reserves, is that a fair statement?

A. Yes, sir. Mr. Stevens' witnesses show that there's a quarter of a million barrels of oil possible from these wells and we're getting something like 10,000 of it, so there's a huge potential for increased oil recovery if the horizontal wells can be made to work.

Q. And the reason the horizontal wells will work is because they require less of a pressure, or they reduce pressure so you get away from the coning effect as it pulls oil from the well?

A. Yes. There will be less pressure pushing the water towards those horizontal wells.

Q. That is, therefore, linked to your argument

why you don't feel that, in effect, drilling within 100 feet horizontally is almost like drilling vertically 330 feet from the lease line? You don't see a real difference then in the amount or pressure, I guess, draw-down, which would equate in the production of oil?

A. I believe that the hydrocarbon on the offset spacing unit sees approximately the same forces in those two cases.

Q. So the net effect, then, on an offset lease or an offset proration unit is going to be essentially the same?

A. Yes, sir, that's my belief.

Q. Now, with respect to this overall plan, is it your opinion and testimony that by the adoption of this plan, that we are, in fact, setting up a method or a plan by which we can increase the recoverable reserves from this Diablo-Fusselman Pool?

A. Yes, I believe that horizontal wells offer the one good opportunity to produce significant amounts of oil from this reservoir. There's five million barrels of oil in place in this reservoir, and the only way to get a decent fraction of it, a million barrels or more of it, is with horizontal wells.

Q. Is it your opinion and testimony that the

adoption of these proposed rules, as they've been amended here at this hearing, would they prevent waste and protect correlative rights?

A. Yes, sir.

Q. Mr. Boneau, do you feel that one vertical well will recover all of the reserves in a 160-acre tract under conventional methods of producing right now?

A. One vertical well in 160 acres has essentially no chance of recovering a significant amount of the oil reserves under that 160 acres.

Q. Because of the unique nature of this particular oil-producing reservoir?

A. Yes, sir.

Q. That's been proven to Yates and to Stevens by their experiences out there in the past few months?

A. Yes, sir. We've both tried to do that without great success.

Q. Are there any plans by Yates Petroleum to drill a well or wells within the four-month period that we're proposing for these temporary rules to be extended?

A. I believe that Yates would drill at least one well within the four-month period in the south half of the south half of Section 21.

Q. Would this be an offset to the McBride No. 2 well?

A. It would be an offset to their No. 1 or their No. 2. I'm not sure which. I recommended it be to their No. 2.

Q. Under the present field rules, would Yates be able to drill that offset?

A. No, Yates cannot drill that offset under the present field rules.

Q. Now, this additional well that Yates proposes to drill and with respect to the additional wells that Stevens has testified to, their horizontal well and possibly another vertical well to the south, would those wells, in your estimation, provide information that would be critical or crucial to deciding what the Oil Conservation Commission should do at the end of the four months?

A. Yes. Mr. Stevens has proposed that a horizontal well is very critical to producing oil from this reservoir. The horizontal wells, as I said, are the prime hope for producing that oil, and I surely hope that he can prove that it can be done successfully.

Q. In your opinion, then, would the additional information that would come from the drilling of these

additional wells, would that be beneficial to all parties to this cause, and, I suppose, the State of New Mexico because they hold a royalty interest and what-have-you?

A. Yes, very definitely.

MR. CARROLL: I pass the witness at this time.

HEARING EXAMINER: Mr. Carr, your witness.

MR. CARR: No questions.

EXAMINATION

BY HEARING EXAMINER:

Q. Dr. Boneau, talking about the south half of the southeast quarter of 21, that was the half or quarter section which you stated that Yates would be looking at drilling a well, is that correct?

A. That's the 80 acres that offsets McBride No. 2, I believe.

Q. Are you proposing to drill a horizontal well or vertical well, or does that depend upon Mr. Stevens' horizontal proposal?

A. My recommendation to management has been that we consider drilling a horizontal well there, and I would like to be able to have some indication of the success of his before we start it, frankly.

Q. I've heard a lot of talk about horizontal

wells, and when I look at the exhibits today and your testimony, it's all in agreement that a horizontal well in the oil portion would greatly enhance the development of this particular pool, i.e., get the oil out, is that correct?

A. Yes, sir.

Q. Is there any need to have a vertical or a horizontal well in the gas cap?

A. No.

Q. What kind of a limited life do these horizontal, or even a vertical well, what kind of a life are you seeing out there or do you hope to see, or what's the actuality?

A. Our vertical well, Pathfinder No. 3, is producing significant amounts of water after three or four months of production. More or less the same result as his. It's produced about 10,000 barrels of oil and it's starting to make significant amounts of water.

Each 80 acres out there contains about a million barrels of oil, in round numbers, and a normal recovery factor of 15 or 20 percent, you would hope to be able to get 200,000 barrels or 286,000 barrels. But 200- to 300,000 barrels of oil, and it looks like we're getting 10,000 or $20,000, you know, missing a

whole bunch of it, leaving very much of the normally recoverable oil in the ground.

With a horizontal well you ought to be able to recover more of that, but it's obviously got to be a lot more. A horizontal well making 30,000 barrels is not going to do great, but it's got to make 100,000 barrels or 150,000 barrels.

Because of the coning I think they need to be produced at relatively low rates. The request here was for an allowable of 222 barrels a day. Maybe it ought to be 125 or 150 barrels a day. And at those kind of rates you're talking about a life that's five years, if they stay constant at those rates, and of course they're going to decline somewhat.

If the horizontal wells are successful, they will last five, eight, ten years. We're not talking about the project being over at the end of this four-month trial period unless the project is a failure. If it's over, then it's going to be a failure.

We're looking at a substantial length of time for producing oil from these wells. I tried to answer your question, and I hope I did.

Q. I'm trying to formulate a second question concerning the gas cap. 80 acres in the gas cap, is

that crude? is it overdevelopment? What would an 80-acre spacing do to the gas cap? And how would that effect your horizontal drilling if offsetting you have a gas well and a gas cap spaced on 80 acres?

A. I'll try to be truthful with you.

MR. STOVALL: Please do. You're under oath.

A. The gas cap could be produced with a small number of wells. Two wells, probably, could produce the gas cap. The gas is sour and needs to be treated before it can be sold, and so there's a limit to how much gas you can produce out of wells on 80. If you had gas wells on 80, you really could not produce four times as much as you could on three 20s, because your gas plant sweetening capacity would not handle it.

So what would happen if, at the end of four months we decided this was a failure and all we had was some gas to produce, whatever wells we had on 80s would produce a total of 8 million a day or something, and be sold. There would be an extra one or two wells producing, but the gas would not be produced any faster or go any harder because of the gas plant capacity.

I think that's as close to what I really think will happen as what I can say.

HEARING EXAMINER: Any other questions of Dr. Boneau?

EXAMINATION

BY MR. STOVALL:

Q. Let me go back to the question which caused me the look on my face, which caused you consternation as to whether you had been clear or not. Actually, you were clear. I understood what you were saying in terms of the pressure draw-down.

Let me visualize. As your wellbore goes horizontally, I understand what you're saying is you have a smaller pressure draw-down because you're drawing out the same volume over a larger area, in effect? Is that a simplified layman's explanation?

A. Yes, sir.

Q. I'm envisioning two different scenes. One is where the end of the horizontal wellbore goes to within 100 feet of the leased line. How much draw is there off the end of that wellbore? You have a straw with holes in the side and no hole on the end. How much pull is coming from that reservoir further down that wellbore itself? Is it different than what you get coming in off the side? Do you follow? Does my question make sense?

A. Yes, your question makes sense. I think

the answer is that it's so long and so skinny that almost all--99-point-some percent of it is what I'm calling linear flow, straight in to the horizontal section.

You're talking about what's coming in from here. And for something a thousand feet long, that's a very small--it might be 5 percent, but it's a very small fraction and there's no special magic zapper point on the end of this that attract more forcefully or anything.

I think all I'm saying, there's nothing special about the end and there's not going to be any particular extra amount of flow in towards that end.

Q. My thinking was the opposite. What I'm thinking of is it may be one thing to allow the horizontal wellbore to terminate at a point that's no closer than 100 feet from the offsetting lease. You measure from the end of that to the termination.

You used the example of holding your pen up in a horizontal manner, you go off the point of your pen and go 100 feet in the direction your pen is pointing. Is it different if I move my pen laterally to a point 100 feet from the lease--and I'm running parallel to that line that's running 100 feet away--am I more likely to cause drainage than I am coming off

the point of my pen?

A. Yes, your thought is right, I believe.

Q. In terms of these rules, it may be more appropriate to allow the well to be laterally not closer than something greater than 100 feet, but terminate at a point that's--

A. Yes, we're thinking of the horizontal wells going fairly much in a straight direction. And they start towards the interior of the spacing unit. Under normal conditions the end would be closest to the edge of the spacing unit.

It would be difficult to start in the interior of the spacing unit and drill to the edge of the spacing unit and magically turn and stay 100 feet from the edge. That would be hard to do. It's not the intention of what we're doing here, but I agree it is within the letter of what's written.

Q. This is for my edification. If you're talking about a vertical wellbore and a drainage radius, you're talking about the infinite series of planes around that wellbore, measured out horizontally from that vertical bore, is that correct? You're talking about the circular--

A. Yes, sir.

Q. --drainage pattern. If you have a

horizontal wellbore, what is the drainage pattern in a three-dimensional sense? Is it also a circle around the wellbore with a radius? Would the wellbore be in the center?

A. The drainage pattern is going to be determined by the horizontal section and in a two-dimensional sense, which I think is better understood, it's going to be an ellipse.

Q. It's a horizontal ellipse, are you saying?

A. It's going to be an ellipse that you normally rotate around the horizontal well to get the three-dimensional picture. I don't know what that figure is called. It is going to be cigar-shaped.

Q. Now I understand it. That's just the answer I wanted to hear. We lawyers can understand cigars.

Dr. Boneau, does Yates at this time have a plan to either drill or reenter and complete horizontally any well in the Pool, or is it merely your recommendation? I believe you said you would recommend it. Or can you say?

A. I really can't say. The plans at our place change from time to time. It's my belief that if what Mr. Stevens' group presented is approved, that we'll drill a horizontal well within the four-month period.

Q. I'll ask you another question and I don't know if you're qualified to answer it or not, but I will need an answer.

Are you familiar enough with the ownership in this area, and particularly within the Yates properties to be able to answer the same question I've asked of Mr. Stevens, as to whether there will be a change in revenue interests in any of the tracts as a result of reduction in spacing?

A. I believe that I'm qualified to answer that, and the answer is that there will be no change in ownership if the spacing is reduced.

Q. Yates' interest is Section 21, is that correct, all of Section 21?

A. Yes, sir.

Q. That is uniformly owned?

A. Yes, sir.

MR. STOVALL: I have no further questions of Dr. Boneau.

HEARING EXAMINER: Are there any other questions of this witness? If not, he may be excused.

Are there any other witnesses?

I have one clarification question I would like from Mr. Ahlen.

JACK AHLEN,

having been previously duly sworn, testified further as follows:

FURTHER EXAMINATION

BY HEARING EXAMINER:

Q. On Exhibit 2, I want to go from well to well. What are the perforations?

A. That's the Yates No. 6.

Q. Are the perforations shown?

A. Yes, sir. The final report has not yet been published on the two Yates wells. I'm not an expert on those exact perforations, but those are the perforations that I have heard of.

Q. How about with the Stevens well?

A. On the Stevens, yes.

Q. And that's the vertical lines?

A. Yes. And we're open-hole in the No. 2, the No. 2 McBride. We're open-hole.

Q. Why don't you mark those perforations and the open-hole--

A. It's marked in the broad line right there. That's the open-hole interval. And the same is true over here. These are the perforations in the No. 1 McBride.

HEARING EXAMINER: Thank you, Mr. Ahlen.

I don't have any questions of anybody. Anybody on the stand is excused.

Are there any statements? Mr. Losee?

MR. LOSEE: I have a couple of things that I would like to say as a statement.

HEARING EXAMINER: You may start.

MR. LOSEE: Okay. As Mr. Carr has stated, and Mr. Carroll has concurred, we've asked for what's amended today to change the temporary rules to extend for a four-month period, which obviously is to permit the further data-gathering in the reservoir, both by vertical and horizontal wells.

As a result, with a four-month period, we're anxious to get an order as promptly as possible, hopefully fulfilling the requests of the applicant and the other party in the reservoir, Yates, because if it gets delayed we won't really have the four-month period, and we won't be able to get a horizontal well down and see if it can actually do what we hope it can. So we ask the Examiner and the Commission Division's indulgence in trying to get it out as promptly as possible.

MR. STOVALL: Mr. Losee, may I interrupt you for just a moment on that point?

MR. LOSEE: Sure.

MR. STOVALL: If the order provides it will be four months from the date of the order, that alleviates that problem, does it not?

MR. LOSEE: That's perfect, yes.

MR. STOVALL: And the parties have no problem with continuing under the current temporary rules until the order is issued, I assume, do they?

MR. CARR: That's fine.

MR. CARROLL: No problem.

MR. STOVALL: Sorry for the interruption. I just wanted to clarify that.

MR. LOSEE: Second statement. We have asked the Commission for a de novo hearing on the original de novo, and it's set for hearing next week. We would propose to ask for a continuance of it until this order gets issued, and a continuance for our application. And I suppose Mr. Stevens has no objection?

MR. CARR: We have no objection.

MR. LOSEE: We'll file a written request to continue it. And that's all.

HEARING EXAMINER: Thank you, Mr. Losee.

Mr. Carroll, do you have any other comments?

MR. CARROLL: I think we've covered the

waterfront, Mr. Stogner.

HEARING EXAMINER: Mr. Carr, you may speak.

MR. CARR: Mr. Examiner, I think at this time we can waive a closing argument. Our proposal is before you. It enjoys the support of all the operators in the Pool. We're hopeful four months from now we can be before you in agreement again with data that will be the basis for permanent rules for the Pool. In the meantime we're anxious to continue to go forward with collecting data and developing the reservoir, and are optimistic that four months from now this matter can be put to rest once and for all.

HEARING EXAMINER: I would like to request a rough draft order. I'll ask Mr. Carr, but also if you would get with Mr. Losee and Mr. Carroll.

MR. CARROLL: I think we can come up with a single proposed order, and we'll be glad to work with Mr. Carr.

HEARING EXAMINER: When do you think you'll be able to have that to me?

MR. CARR: I think we can have it within a week, and we'll try and expedite it more quickly than that.

HEARING EXAMINER: If there's nothing

further in Case No. 9854, then I'll take it under advisement.

Hearing adjourned.

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 May 23, 1990.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ
CSR No. 91

My commission expires: May 25, 1991

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9854 (Reopened) heard by me on May 24 1990.

, Examiner
Oil Conservation Division