NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10478

IN THE MATTER OF:

The Application of Merrion Oil and Gas Corporation for pool creation and temporary special pool rules, Sandoval County, New Mexico.

BEFORE:

DAVID R. CATANACH

Hearing Examiner

State Land Office Building

May 28, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

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FOR GOLA OIL COMPANY:

MR. CHARLES M. GOAD

I N D E X

I N D E X (CONTINUED)

E X H I B I T S

EXAMINER CATANACH: At this time we'll call Case 10478.

MR. STOVALL: Application of Merrion Oil & Gas Corporation for pool creation and temporary special pool rules, Sandoval County, New Mexico.

EXAMINER CATANACH: Are there apperances in this case?

MR. ROBERTS: Mr. Examiner, my name is Tommy Roberts. I'm with the Tansey law firm in Farmington, New Mexico. I'm appearing on behalf of the applicant, Merrion Oil & Gas Corporation, and I have two witnesses to be sworn.

EXAMINER CATANACH: Other appearances?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin & Aubrey appearing on behalf of Benson Montin Greer Drilling Corporation and I have one witness. And we appear in support of the applicant.

MR. PADILLA: Mr. Examiner, Ernest L. Padilla, Padilla & Snyder, Santa Fe for Seymour S. Smith.

EXAMINER CATANACH: Seymour S. Smith?

MR. PADILLA: S-e-y-m-o-u-r. Mr. Smith

is a lease owner in Sections 21 and 36 of 19 North, 3 West.

MR. STOVALL: Does Mr. Smith have a position with respect to this application that you are here advocating?

MR. PADILLA: We're not advocating necessarily, neither are we opposing necessarily. In fact, Mr. Smith had very late notice due to the Chicago flood and was unable to prepare for this hearing, and I was hired essentially on Tuesday of this week.

EXAMINER CATANACH: You won't have any witnesses?

MR. PADILLA: I have no witnesses.

EXAMINER CATANACH: Can I get the three witnesses to --

MR. McCORD: Mr. Examiner.

EXAMINER CATANACH: Oh, I'm sorry.

MR. McCORD: I'm Kevin McCord from Farmington, New Mexico. I'm here representing Robert L. Bayless. I have a short statement in support of the application.

EXAMINER CATANACH: Any other appearances?

Will the witnesses, please, stand to be

sworn in.

[The witnesses were duly sworn.]

MR. STOVALL: That was the first time the Chicago flood has ever appeared before the Oil Conservation Commission actually in New Mexico.

MR. ROBERTS: Mr. Examiner, if I may, I'll call Mr. Dunn.

STEVEN S. DUNN

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

EXAMINATION

BY MR. ROBERTS:

Q. Would you, please, state your name and your place of residence for the record, please, Mr. Dunn.

A. I'm Stephen S. Dunn, and I live in Farmington, New Mexico.

Q. And what is your occupation?

A. I work for Merrion Oil & Gas as a petroleum engineer.

Q. Would you, please, describe your general job responsibilities for Merrion Oil & Gas Corp?

A. My primary responsibility is general

supervision of the production of oil and gas which includes drilling.

Q. How long have you been employed by Mr. Merrion?

A. Sixteen years.

Q. Are you familiar with the activities of Merrion Oil & Gas in the area which is the subject of this application?

A. Yes, I am.

Q. Are you familiar with the application in this case?

A. Yes, I am.

Q. Have you testified on any prior occasion before the New Mexico Oil Conservation Division?

A. Yes, I have.

Q. In what capacity?

A. As a petroleum engineer.

MR. ROBERTS: I would tender Mr. Dunn as an expert in the field of petroleum engineering.

EXAMINER CATANACH: Mr. Dunn is so qualified.

Q. (BY MR. ROBERTS) Mr. Dunn, would you briefly describe the purpose of the application

in this case?

A. Merrion Oil & Gas asks the Division for the creation of a new pool, which we propose to call Rock Mesa, for the production of oil from the fractured Mancos Shale Formation within portions of Townships 18 and 19 North, Range 3 West, Sandoval County, New Mexico, and also the setting of temporary special rules that would include provisions for 640-acre oil spacing designated well locations and special allowables.

Q. May I ask you to refer to what's been marked as Exhibit No. 1 and ask you to identify it?

A. Exhibit No. 1 are the temporary special rules and regulations that we propose for the Rock Mesa fractured Mancos Shale Oil Pool in Sandoval County.

Q. Would you summarize the major provisions of the rule?

A. Rule No. 1 sets out the pool boundaries as an attachment, Exhibit A, and also provides that acreage within one mile offsets surrounding the proposed pool would be subject to the special rules.

Q. Mr. Dunn, let me stop you there. With

respect to Rule 1, is it not correct that the area that you now propose to be included in the proposed pool is different than the area that was originally applied for?

A. That is correct. We have reduced the area substantially to approximate -- well, it's within the two-township region that we originally applied for.

Q. Refer to Proposed Rule No. 2 and tell the Examiner what the elements of that rule are.

A. Rule No. 2 provides for a standard proration unit of a 640-acre single governmental section and also provides for a second well on a proration unit if the first well cannot produce more than 50 barrels of oil per day after 180 days of production.

In addition, Rule 2 provides for administrative approval of nonstandard units.

Q. Mr. Dunn, you mentioned the criteria for the drilling of the second well and you indicated that part of that criteria was a well, the first well cannot drill or cannot produce more than 50 barrels of oil per day.

Is there not also an additional element of that criteria?

A. That is correct. Both oil rate and gas rate are specified in the proposed rule, and the gas rate threshold is 300 Mcf per day. If a well exceeds either of those two criteria, that would negate the permission to drill a second well in that proration unit.

Q. Okay. Let's move on to proposed rule 3.

A. Rule No. 3 provides that a well may not be located closer than 990 feet to a unit boundary. It also provides for an allowable penalty for a nonstandard surface location and provides that a second well on the proration unit cannot be in the same quarter section.

Q. Continue on.

A. Rule No. 4 provides for a top unit allowable of 800 barrels of oil per day with a corresponding 2,000 to 1 limiting gas-oil ratio. It also provides for an allowable penalty formula for a nonstandard bottom-hole location.

Rule No. 5 provides for a required bottom-hole pressure test to be run on any new well within 30 days of first production and to be filed with the Division.

Rule No. 6 establishes the vertical

limits of the pool from 500 feet below the top of the Point Lookout to the base of the Greenhorn Formation.

And Rule No. 7, the final rule, identifies these special rules as temporary and proposes two years for the temporary period.

Q. Could you briefly and in general terms tell the Examiner how and why these proposed special pool rules were developed?

A. The temporary rules as slightly modified are the work product or the result of a committee, industry committee, that was called together at the request of Frank Chavez, the OCD District Director in Aztec in, as I understand it, 1988.

The members of that committee comprised representatives from several oil companies that were extensively involved in fractured Mancos shale-oil development back during that period of time, namely Amoco, Mobil, Mesa Grande, Mallon, and Benson Montin Greer Drilling Corporation.

The purpose of the committee was to, as I understand it, develop a general spacing requirement for the San Juan Basin east side fractured Mancos production.

And we have reviewed these rules and find them to be reasonable and therefore have proposed them here for adoption for our proposed pool.

Q. And do you propose that these rules be incorporated in an order that's issued in this case?

A. Yes, I do.

Q. Now, turn your attention to what's been marked as Applicant's Exhibit No. 2. Please identify that exhibit.

A. Exhibit No. 2 is in three parts. Part 1 is a leasehold ownership plat depicting leasehold ownership in the region of the pool in Townships 19 North, 3 West and 18 North, 3 West, the northern two tiers of the section are shown in 19 North.

The pool boundary is identified on the ownership plat in a red marking, I guess you call it a crosshatch. And the various leases within the pool boundary and offsetting the pool boundary within one mile are also shown with their lease numbers.

Q. Could you briefly describe the color coding on this exhibit, on this part 1?

A. Okay. There's a legend at the bottom of the leasehold ownership plat that basically splits up the leases into the following categories.

We have a coloration, I call it black stipple pattern, that is the Grosser lease. And the reason that particular one was set out separately is that Merrion Oil & Gas has entered into an agreement to purchase that lease. It has not been finalized, so we felt it appropriate to show it separate, although it will soon be part of the Merrion Oil controlled acreage.

We show in yellow the Merrion Oil leases. And when I refer to "Merrion Oil," I'm talking about, that's a general term we use for Merrion Oil & Gas Corporation and its affiliates, which would include among others J. Gregory Merrion personally.

We show open acreage in a red stipple pattern. That would be acreage not under lease. We show Yates' leases in a green stipple pattern, and again that term "Yates" stands for the Yates companies and its affiliates.

Q. And when you refer to Yates Companies and its affiliates, are you referring to the

Yates Companies in southeast New Mexico?

A. That is correct.

Q. Okay.

A. The blue stipple pattern refers to the Jordan Oil leases. And the Jordan Oil leases are subject to a farm-in to Robert L. Bayless and Benson Montin Greer Drilling Corporation. And each of those -- the Yates, the Merrion, and the Jordan acreage positions within that area are in support of this application. That's the main reason for identifying them separately.

The remaining interests in the area are identified with a, I guess, a purple stipple pattern there. We did not break those out in the legend.

Q. You indicated that the acreage that's designated as the Grosser lease, the Jordan Oil leases, the Merrion Oil leases, and the Yates leases are in support of this application.

Do you know the percentage of that acreage controlled by those entities that are in support of the application?

A. If you'll refer to Exhibit 2, part 2, that's really the purpose of that exhibit, is to give the Examiner a feel for how much of the

acreage is in support of the Rock Mesa Pool creation.

And it appears to me to be around 80 percent. I did not add it up. But the exceptions would be open acreage which is neither in support or otherwise and then the others, which we have no knowledge of whether they support or otherwise. But that's about 22 percent.

So it would be about 78 percent is in support of the proposed pool.

Q. Mr. Dunn, is this any fee acreage contained within the boundaries of the proposed pool?

A. Again, referring to Exhibit 2, part 3, the purpose of this exhibit is to show the Division that only federal and state acreage are involved, and the bulk is federal acreage.

The state acreage is 640 acres, namely Section 16 of 19 North, 3 West.

Q. Now, let's have you refer to what's been marked as Applicant's Exhibit No. 3, and I'll ask you to identify the exhibit.

A. Exhibit No. 3 is a general well location map that shows the entire Townships 18

North, 19 North, Range 3 West, the area of our original application and what we advertised for hearing.

Also shown on this exhibit is the proposed boundaries that we are now supporting and that they are within the area for which we advertised.

The purpose of this exhibit or what it shows is that there is an accumulation of wells in the eastern portion of our proposed pool area. That particular accumulation of wells is the Media Entrada Field, which Merrion Oil & Gas operates.

And the majority of those wells were and are Entrada producers. And, as you can see, all but -- well, I don't know if it's obvious, but there's only one remaining Entrada producer out of that whole conglomeration.

One of things that I wanted to show with this exhibit is that there are a number of wells in the area but only five, which are indicated by red dots, that tested the Mancos on the fringes of our proposed pool area.

Also shown on this exhibit is our proposed initial test well in the northeast

quarter of Section 32 of 19 North, 3 West. And, in addition, a fault trace that we believe plays a major role in our decision to drill where we are proposing and will be discussed in follow-up testimony by Doug Endsley, our geologist.

Q. What, if anything, does the prior well history tell you with respect to the proposed 640-acre spacing for the area?

A. Neither confirms it nor denies it. Basically the previous production, those wells were drilled in the late 60s. They show a significant oil show in the area out of the fractured Mancos. And we cannot conclude from that information that 640-acre spacing is indicated, nor is it otherwise reduced.

Q. To what extent are the proposed horizontal boundaries of the pool based on geologic factors?

A. Geology plays a role in the sense that we have an idea where we -- well, we have an idea that we'd like to test here. We believe that there's a reasonable expectation of oil in fractures in the Mancos. And the basis for that is the fault trace that is shown on Exhibit 3; and therefore geology does play a role.

However, due to the limited amount of data we have, we cannot say that this is the only area that we would reasonably expect oil production.

Q. What other factors, if any, were considered in establishing the proposed horizontal boundaries of the pool?

A. Well, I think in general we were approximating our geology, our geologic idea. And originally what we had proposed was to use the township boundary basically because it's to the south of the Rio Puerco area and provides a convenient break-off in that sense.

And also, because of the limited amount of data, we just don't know what portion of this two-township area may eventually be productive. But we feel that we've shrunk it down to an area now that will allow us to test our idea. And so that's really the basis for it.

Q. Are you currently working to establish a voluntary unit for this area?

A. We are. We have filed application with the Bureau of Land Management to unitize the identical boundary or bounded area that we propose for a pool. And the BLM has given us

favorable indications. And that application is currently in the process, going through their process of approval.

Q. Would you describe your initial plan of operation or development of this area?

A. What we would propose to do is to drill our initial well, as I said, in the northeast quarter of Section 32. And we plan to do that within six months following approval of our unit at a minimum. We've actually targeted to try to drill a well sometime in September of this year. And, of course, we won't do anything until the unit is approved.

And following the drilling and completion of that well, assuming we get favorable results, we'll pick a second well based on the results of the first where we would drill it.

And again we will continue to drill on a minimum of six-month intervals. That is a requirement of the BLM exploratory unit agreement. So we would use that as our minimum. If we would get encouragement, we would accelerate that schedule.

Q. Let me ask you now to refer to what's

been marked as Applicant's Exhibit No. 4 and ask you to identify that exhibit.

A. Exhibit No. 4 is a spacing economic exhibit to support our temporary 640-acre oil spacing. And it's a fairly busy exhibit, but I thought I would go down through and tell you what I've done on this thing.

I've compared three well spacings, 160-acre, 320-acre, and 640-acre spacing. I've chosen --

Q. Let me ask you there, why did you select those particular spacings scenarios?

A. Well, it represents kind of a range of routinely drilled spacings in the area. So that was the main reason, was to try to give a view of what the possibilities are as far as economics go.

Q. Why did you not run this scenario under a 40-acre spacing?

A. I could have, but because the 160-acre spacing is so uneconomic, there's no need to. It does not change the conclusion.

Q. Why don't you continue on and discuss the parameters used in your analysis.

A. Okay. Oil reserves per well, I used an

average expected recovery of 125 barrels per acre. And this number was based upon data that I received from Al Greer, who I consider an expert in fractured Mancos oil reservoirs.

And it represents 5 percent of the recovery on average through solution gas drive of the oil in place. And the oil in place will range fairly widely from 1,500 to 3,000 barrels per acre. And I consider the 5 percent recovery through solution gas drive to be very reasonable based on my experience in the San Juan Basin.

I calculated a reserve deduction of 1/8 royalty, which I consider again to be very conservative because I made no deductions for overrides, which is pretty unusual, and I in particular made no provisions for deducting any costs due to lease acquisition.

I calculated the income based on a current oil price of $19 per barrel. And I estimated a well life. The purpose of estimating the well life is in order to calculate an operating cost to apply to the economics and also to provide a basis for discounting to bring it back to present value.

Q. What underlying assumptions do you make

with respect to this parameter regarding estimated well life? I assume there are some assumptions that you've made.

A. Well, there's two basic assumptions that are critical: One is you've got to assume an initial oil rate. And, as you can see at the bottom of the exhibit, I used 100 barrels of oil per day per well for each of the scenarios.

And probably more critically is what is indicated under Note 3 that the estimated well life assumes that all wells in the proposed pool are drilled and completed simultaneously. And the reason you make that assumption is that you need to ensure that no one well is draining an area larger than the proposed spacing or the assumed spacing.

Again I went on and calculated state taxes at 8 percent, which is conservative again. They're a little more than 8 percent. I rounded it off for ease of calculation. Operating costs I assumed at $1200 per month per well, which again I feel, based on our experience in this area, is probaly a low-side number but realistic.

I threw in a plug and abandonment cost

per well of $20,000, which is based on experience, and then calculated an unrisk-net revenue dollar for each of the well spacings and discounted that unrisk-net revenue at 10 percent, which I felt the 10 percent number was relatively reflective of what you might be able to obtain in alternative investment.

I then risk adjusted the net revenue, discounted, using a 75 percent success factor. What that means is that if you drill four wells, one of them would be a dry hole. And I think that's probably a reasonable assumption considering we don't have much data and it's probably optimistic.

Then estimated drilling and lease equipment costs for average depth well of 3700 feet at $75 a foot. And again that's a conservative number based on the way that I typically would drill a well. It does include some fluff in there to account for the fact we would be using some sort of non-damaging circulating fluid, like air mist drilling.

And it does not take into account if we needed to put a large stimulation, a large frac job on the well. That in and of it itself could

run upward of $100-, $150,000, and I did not account for that.

Eventually I came down and calculated a profit for each well before federal income taxes and then calculated the discounted return on investment. And for the 160-acre case, I found that we would actually lose money on our investment and therefore concluded that's an unsatisfactory option.

And on the 320-acre spacing that we would return a 26 percent discounted return on the investment. And that by oil field standards is fairly marginal. And finally on 640-acre spacing that we would receive a satisfactory return of 138 percent on our investment.

My conclusion from this exhibit and what I'm trying to demonstrate here is that in order to encourage an operator to get out there and take that risk and drill that first well, we need to see spacing on the 640-acre range initially to get us to drill that first well. And then based upon the data we would develop from there, the economics could be refined.

But we believe at this point 640-acre is what's necessary for us to justify

economically drilling in the air.

Q. It is not your purpose or the presentation of the information on this exhibit to address the issue of the maximum or optimum area of drainage, is it?

A. No, we do not know what that is, and we won't know until we get in there and start digging holes in the ground.

Q. Refer to what's been marked as Exhibit No. 5 and identify that exhibit. Explain its significance to this application.

A. Okay. Exhibit No. 5 is in two parts, and each part is multi-page. Part 1 is an alphabetical listing of those entities that we attempted to notify concerning the hearing here today.

On that notification list is the name and address of each entity, the lease number that they're involved with or that they control, and then also -- rather a receipt was returned on the certified mail notification.

Part 2 again is a multi-page exhibit that is arranged alphabetically to correspond with part 1 of the return receipts that Merrion Oil & Gas received back from our mailing.

Q. Mr. Dunn, let me have you refer back to Exhibit No. 2 and, if you would, identify the geographic areas that were the focus of your notification efforts.

A. Exhibit No. 2 does not cover the entire area. Our notification efforts covered all of 18 North, all of 19 North, Range 3 West, and then the one-mile offsets around those two townships.

Q. Now, did you conduct a good faith effort to find the correct address of all the parties entitled to receive notice?

A. Yes, we did.

Q. And has notice been given at the correct addresses pursuant to that effort?

A. Yes.

Q. And in your opinion have the notice rules of the Rule 1207 of the OCD's Rules and Regulations been complied with?

A. Yes, they have.

Q. I want you to refer once again to what's been marked as Applicant's Exhibit No. 1, which are the Proposed Temporary Special Rules and Regulations for the Rock Mesa Mancos Shale Oil Pool.

Rule 7 establishes the temporary nature

of the proposed rules. What is the basis for the request that these rules and regulations be temporary in nature and specifically for a two-year period of time?

A. Well, we realize that at this point in time there's very little information available to tell us what the appropriate spacing should be, and we feel it is wise due to the sparse nature of data to space on a large enough spacing to encourage development, drilling, and acquiring additional data that could then be used to determine appropriate spacing.

And therefore we've proposed two years as that period of time that then protects the Division in the sense that if it appears that 640 acres are too large that we could go the other direction and we could go to smaller spacing.

However, we feel it's not justified initially economically to do that, nor is it possible to go from smaller spacing to larger spacing later on. So that's why we propose to start with larger spacing.

Q. In your opinion would the granting of this application result in the protection of correlative rights, and if your answer is yes,

how would that happen?

A. My answer is yes. And correlative rights would be protected since all spacing units within that area would be uniformly spaced and regulated in accordance with these rules. It would be uniformly applied; therefore, each interest owner's rights are protected.

Q. And in your opinion would the granting of this application result in the prevention of waste?

A. Yes, I do. I think it would, number one, would prevent economic waste in that if we as operators cannot see the economics, we're not going to go out there and test the area. It also -- I should restate that. Not economic waste.

It could prevent waste in the sense that if we don't go out there and test that area, we may not develop the reserves. And secondly, when we do test the area, it could prevent the drilling of unnecessary wells which would be the economic waste that is so vital to us as operators.

Q. Were Exhibits 1 through 5 either prepared by you or at your direction and under

your supervision?

A. They were.

MR. ROBERTS: I move the admission of Applicant's Exhibits 1 through 5.

EXAMINER CATANACH: Exhibits 1 through 5 will be admitted as evidence.

MR. ROBERTS: I have no other questions of this witness on direct.

EXAMINER CATANACH: Mr. Kellahin, any questions?

MR. KELLAHIN: No questions. Thank you.

EXAMINER CATANACH: Mr. Padilla?

MR. PADILLA: I have a few, Mr. Examiner.

EXAMINATION

BY MR. PADILLA:

Q. Mr. Dunn, I would direct your attention to your Exhibit No. 3.

MR. STOVALL: Which one is that, Mr. Padilla?

MR. PADILLA: It's the one showing the fault line.

MR. STOVALL: Okay.

Q. (BY MR. PADILLA) Mr. Dunn, do you have

any information on the Mancos wells that are shown on this exhibit as far as gradient is concerned? Did you get my question?

A. Yes, I did. I would say that we have information as regards the amount of oil that the wells have produced. As far as the area that they have drained, we do not have any information on that.

Q. Are these wells currently producing oil?

A. They are all plugged and abandoned.

Q. Did you find any information at all, whether there was any type of communication between, say, the Flint No. 1 and the Medio No. 1 wells shown on the east side or the two easternmost wells?

A. We have no information in that regard. Let me make one correction. There is a well on Exhibit 3 shown in green, which is called the Bowling Federal 5-22. That is a water disposal well used by the Entrada Unit. And it is a -- it is disposing of water into the Mancos Interval.

Q. But you're essentially saying that you have no information at all to say whether there's any communication between any of those Mancos

wells?

A. That's correct. I have no information with respect to communication.

Q. How long did these wells produce?

A. In rough terms they were drilled in -- I think the majority of them were drilled in 69, somewhere in that range. And some of them essentially produced for a couple of months.

The noted exception would be the Federal Media 7, which is in the southwest of the northeast quarter of Section 22, which produced a little over 20,000 barrels of oil from a natural completion before it ceased production and eventually was plugged.

Q. Do you have any information at all, either core data or any of that kind of information as to whether -- as to how tight the formation is?

A. I do not. I know that there were some side-wall cores taken, but I don't have that information.

Q. Do you have any information whether there's any natural fracturing in this area?

A. I have an opinion. My opinion is that Federal Media 7 probably being a natural

completion would not have produced that much oil absent fracturing. The well log quality is extremely poor.

But that is merely a qualitative kind of analysis. I have no hard data to substantiate that.

Q. Mr. Dunn, what kind of drilling activity -- or let me ask this a different way. How much further drilling would you have to have out there before you could determine whether 640-acre or 160- or 320-acre spacing would be appropriate?

A. Well, I don't know if I can answer that question directly. I would say that in the two-year temporary period, we would attempt to define just that issue and to be able to come back to the Division at the end of that period and provide information that if we want to continue with 640s would justify that.

Q. Why did you choose your proposed location to drill first?

A. Well, the primary reason is to test our theory that the fault located on that side of the block of acreage could have created substantial fracture in that area.

Q. Where would your second objective be, or do you have that yet?

A. Well, it would be determined based on the results of that first well. If we drilled in and found a fully well developed fracture system along that fault, I would recommend that we continue to extend along that fault trace.

Q. Assuming that you obtain favorable information from this proposed location in Section 32, where would you recommend that a second well be drilled?

A. Well, there's several possible ways to go. You could go north into 29. You could go into Section 20, 21. You could choose to go south into Section 5 of 18 North, 3 West.

In general I'd say in a north-south direction would be my offhand feeling.

Q. Mr. Dunn, would you propose to do some kind of interference testing between the wells if, say, assuming the first well is a successful well and you continue developing this area, do you have plans to do interference testing to determine what actual drainage is?

A. Well, we don't have firm plans at this point, but I certainly would think it would be

reasonable to do some interference testing to help us evaluate the nature of the reservoir and the expected communication across the 640-spacing areas.

Q. Your Exhibit No. 2, Part 3 shows that you have 94 percent, 94.11 percent of federal acreage. Have you had any meetings with the Bureau of Land Management regarding the proposal here today?

A. We have proposed -- yes, we have. We have proposed an exploratory unit to coincide with this pool area. It's the same boundaries.

Q. But you're proposing to the BLM a federal exploratory unit. Have you also proposed to the BLM the 640-acre spacing?

A. No, not per se. If the unit is approved, at that point the spacing due to the pooling of interests within that unit would not be an issue to them.

Q. In terms of future development, it would be an issue, wouldn't you say so?

A. It would be an issue in the sense that they would want us to fully develop that unit. As long as we can show them we're fully developing that unit with even one well, I think

they would be satisfied.

Q. Now, you stated with respect to Exhibit No. 4, that's your economic exhibit, that that was not designed at all to reflect any type of opinion on drainage or any of that sort of thing; is that correct?

A. Well, it does reflect -- it does not reflect an opinion as to what we might drain in this area. It is by its creation, it does assume a drainage for each case. But no, it's not intended to reflect that we will drain 160, 320, or 640 in our proposed pool area.

Q. The crux of your case is really based on Exhibit No. 4; isn't that true?

A. I'm not sure I understand what you're asking.

Q. Well, you're saying that, as I understand, that 640-acre spacing is optimum not because of drainage but because of economics; is that correct?

A. What I'm saying, I hope I'm saying this with Exhibit No. 4, is that we believe based on what we know at this point that 640-acre spacing makes sense to us economically to justify going out there and starting the initial drilling.

Q. Do you have a number of leases out there, Mr. Dunn, that have expiration dates within the next two years?

A. I cannot answer that. I don't know.

Q. Let me ask you --

A. I've got before me a listing of unit acreage that I cannot confirm the accuracy of it, but it does show a range of expiration dates from 93, mid-93, up to 1998.

Q. The unit agreement would hold those leases if it's approved by the Bureau of Land Management?

A. That's correct, as long as there's diligent development under the terms of the unit.

Q. And it doesn't make any difference whether spacing is 40 acres or 640 acres?

A. I think that's fair.

Q. Let me ask you about the Rule No. 2 on Exhibit No. 1. As I understand it, a second well can be drilled in the proration unit if a well produces less than 50 barrels of oil per day and less than 300 Mcf per day. I mean, it's got to be dual tests; is that correct?

A. That's the way I understand it, and that's after 180 days of prior production. And I

assume -- I was not involved in the committee that developed these rules, but I assume Al Greer could speak to that when he testifies. I think it's reasonable.

Q. Under what circumstances can a person ask for a nonstandard proration unit outside of this rule? In other words, suppose somebody wanted to ask for an exception to standard proration rules, is it your contemplation that an application would be made to the Oil Conservation Division and ask for reduced spacing on the basis of geology or some other criteria?

A. I'm not sure I understood that.

Q. Assuming these rules were adopted by the Oil Conservation Division and assuming that 640-acre spacing would be adopted, how would an operator ask for an exception to those 640-acre spacing rules?

And let me give you an example. Let's just say someone wanted to ask for 160-acre spacing; how would that be done?

A. There's no provision for that in here. That's, I think, covered by the temporary nature of the rules to allow time to develop this on a larger spacing to ensure that that kind of thing

doesn't happen in the interim and create competitive pressure to drill it on 160s before we've had time to determine what might be an optimum spacing.

Q. Well, suppose you only drill the first well and maybe a second well and somebody else wants to drill a well out there and develop their own acreage. These rules shouldn't prevent someone from drilling their own leases; isn't that correct?

A. That's correct.

MR. STOVALL: Let me jump in here and say with respect to a nonstandard proration unit, the Division has an established practice for that. And I will express my opinion, as the Division counsel, that such an application would be handled in the same way as any other nonstandard proration unit would.

These rules aren't unique in that regard. The applicant can come in and justify their nonstandard proration unit just as they would in any other pools.

Does that answer your question? Your question is as to the procedure?

MR. PADILLA: I guess that answers my

question.

Q. (BY MR. PADILLA) I guess the question I did want to know is someone, a lease owner out there who did not enter into the unit agreement that you're proposing, could drill his own wells out there irrespective of the unit agreement; correct?

A. That would be my understanding.

Q. Now, in terms of -- you used a phrase here, competitive -- you didn't want some type of competitive advantage until you figured out what spacing was appropriate?

A. I didn't use the word "advantage."

Q. I don't think you did. But you used the word competitive with something.

A. Right. What I was trying to convey is that I could see a danger in having too dense a drilling too quick, and it could result, it could result in drilling unnecessary wells.

Q. You're not proposing that Merrion Oil & Gas should be the only operator in this area?

A. No.

MR. PADILLA: I don't think I have anything further, Mr. Examiner.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Dunn, what's the advantage of spacing a whole unit area on 640 as opposed to drilling a well and stepping out and extending the pool boundaries as normally done by the Division?

A. Well, the primary advantage is to prevent somebody coming in and drilling on a denser spacing a couple of proration units away, maybe more than a mile away from the existing pool but still within our area of interest, and in creating a situation where you've got a smaller spacing.

And if you're successful in those efforts, it would require that those operators who have drilled on a larger spacing would have to drill infill wells that may or may not be necessary in order to protect themselves from drainage.

Q. Why was the proposed pool boundary contracted from your original application?

A. The primary reason was that in discussing the two-township area with the oil division, they had concerns about the size of the area and the lack of data, which we freely admit,

the lack of data to indicate what proper spacing is.

So we felt we could, you know, live with a smaller area and still test our idea and still be protected from the, as I put it earlier, competitive drilling possibilities.

Q. The proposed pool boundary has its basis in part in geologic evidence or geologic factors?

A. That is correct, only in the sense that, you know, it covers an area that we feel we have a geologic idea. I don't want to lead you to believe that that is a magic boundary that would condemn everything outside there. We just don't know.

It could be that both townships, the entire thing could be productive in the fractured Mancos Shale. But geology did play a role in the sense that we went to an acceptable contraction.

Q. Mr. Dunn, what's the spacing in other Mancos pools in the San Juan Basin?

A. It varies, but I'm familiar with Rio Puerco, which is 320-acre spacing. I believe in the San Isidro Shallow Horizontal Unit, there's a provision where you can go to 640s.

In Gavilan Mancos, I believe it's 640-acre spacing with a provision for or allowing two wells within that 640-acre area except in a buffer zone bordering Puerto Chiquito and the Canado Hitos Unit area. I believe Puerto Chiquito is 640 acres.

Q. So basically in other Mancos pools in the San Juan Basin, it's effectively 320-acre spacing?

A. Well, I would say that varies because the Puerto Chiquito, I think, if you look at the actual drilling there, in actuality the way they've drilled it, the spacing is larger than 640. So there's an exception. But other than that, in general, 320s, yes.

Q. Do you feel like your area has different geologic properties than these other Mancos areas?

A. Well, we just don't know. I would assume that they could be similar. In fact, I would, you know, speculate they probably are. But we don't know, and we certainly, what we would propose is that temporarily we be allowed to take a look at that issue and then come back to you and justify what the proper spacing should

be.

Q. You mentioned, I believe, a well in Section 22, the No. 7, that produced some 20,000 cumulative barrels of oil?

A. That's correct.

Q. How long did that well produce?

A. It was on the range of three or four years, something like that.

Q. Why can't you use the data from that well to determine a spacing, to determine a drainage?

A. Well, I guess there's probably several issues. One, we don't know how the well was handled during the completion other than what is reported in the records, so it's difficult for us to say whether that well is representative of the area.

It could be that they had, even though they had fractures, it could have been severely damaged by drilling it with mud instead of, say, aerated fluid. That's a possibility.

There's no pressure tests, interference testing, or anything of that nature available to us to help us determine areal extent.

Really about the only conclusion I

could draw from that data is that the significant oil was produced in my view from Mancos, and it probably had to come from fracturing.

But it doesn't really help me determine how far out that well was draining. I just don't know.

Q. With respect to the proposed rules, were you on the committee that initially developed these rules?

A. No, I was not. Members of that committee were Mobil, Amoco, Mesa Grande, Mallon, and Benson Monte Greer Drilling Corporation, in which Al Greer is here today to speak to that committee and its deliberations.

Q. Can you tell me what the purpose of that committee organization was and what they were supposed to do and --

A. Well, it's my understanding that this committee came about shortly after a period of time where there was a lot of conflict concerning the development of the Gavilan area. And there was a lot of disagreement about how that should be properly spaced and drilled and it being a fractured Mancos shale pool.

And this committee was brought together

as a combination effort of the OCD and industry and particularly those companies that have been involved in that area to try to come up with some sort of a strategy or a reasonable way to develop fractured Mancos shale in general to allow an orderly development that would prevent waste and protect correlative rights.

Q. Are the rules that you proposed here today, are there any significant differences between these and the ones the committee came out with, or are these the ones essentially that the committee came out with?

A. They're essentially the same. One change that we proposed was that in Rule 3 there's a requirement for a directional survey of any well drilled closer than 1090 feet to a proration unit boundary before an allowable is assigned to it.

The reason for that, I would suspect, is that deviation from 1090 could easily exceed 100 feet at a bottom-hole location. So you could be closer than 990 feet to an outer boundary at a bottom-hole location.

We added the provision that the requirement for the directional survey could be

waived by the director upon written consent by the offset operators.

The reason for that being it may be that you may be offsetting -- you may be the offsetting operator. And it may not be of concern to you to run that log and you could save some money by not having to run it if it was mutually agreeable.

Q. These rules, Rule No. 2 is really effectively giving you authority for 320-acre spacing. I mean, it provides for an infill well; is that your understanding?

A. I think that's essentially correct in the case where you drill a doggie well, one that's less than 50 barrels of oil a day and less than 350 Mcf of gas a day.

Q. Do you know what the significance of those two figures are, 50 barrels a day and 350 cubic feet -- Mcf a day?

A. I do not, and I'll defer that to Al Greer. I think it's, you know, a reasonable number, though. I certainly have no problems with those numbers.

Q. Rule No. 2 also contains a provision where a nonstandard proration unit would have to

be published on the hearing docket. That's a little bit more stringent than our current rules. What is your understanding about that provision? Do you know why that was put in there?

A. I don't know why it was made more stringent.

EXAMINATION

BY MR. STOVALL:

Q. From reading that provision, let's see if this would be your understanding, Mr. Dunn, is that it would appear that perhaps, maybe Mr. Greer can clarify this as having been on the committee, but with no objection, no operators objected within 20 days after being notified or 10 days after -- does that appear to be an alternative procedure or two different ways to object?

I'm not sure I understand how we would implement that. Would we put everyone on the docket, or would we put select ones on the docket and if nobody objected within 10 days, then it could be approved administratively? How would you interpret that? Or would you say that it probably should be clarified?

A. I guess, I'm certainly not an expert in why the committee came up with this. But what I'm reading here is that a nonstandard proration unit resulting for a correction in land survey may be approved administratively.

Q. That sentence addressed the fact that a lot of those surveys --

A. Right.

Q. -- in the San Juan Basin are not 640-acre sections; is that correct? Is that your understanding?

A. That's my interpretation of that provision there. And then it goes on to say, "To obtain such approval, the applicant shall furnish the director with the appropriate plats and request the application be published on the hearing docket as an administrative application."

And then it goes on to provide that, "If written consents are received or no offset operator has objected to the nonstandard unit," and I assume it refers to for that reason within 20 days --

Q. Let me ask you another question. Looking at that I have some concerns with the way that's written, as far as publishing it on a

docket and then treating it administratively. I think once you put it on a docket, you've got to give people the opportunity to appear at a hearing.

What would be your opinion, from an operator's standpoint, as going to a more normal procedure more consistent with the OCD practices, within the tolerance you go administrative unless you get an objection and outside the tolerance you go to hearing?

A. I have no objection to that whatsoever. I think I should point out to you what we did here was try not to deviate too much from the committee's recommendations because we felt like they did a lot of work and they had a basis for it and that it was a work product that perhaps the Division would look on favorably.

But we have no objection to, you know, altering that procedure to coincide with the more usual practice of the Division.

Q. Let me ask you another question, which may be more specific to this specific pool. Are you familiar enough with the land out there and the surveys to have an opinion as to whether there are going to be any grossly

out-of-proportion units to which this would apply, say, greater than 648 or 650 acres or less than 632?

Are there any major survey deviations out here as there occur in other parts of the basin?

A. I don't think I could answer that. I don't know.

Q. Okay.

A. I could tell you that from the summary of the acreage, it does not appear so. The summary of the acreage, namely that we're adding up a number, 17 full sections for this pool area, comes out fairly close to what you would calculate for 640-acre per section. So I wouldn't think so in the pool itself.

MR. STOVALL: Mr. Roberts, do you have any knowledge, or are you comfortable enough to --

MR. ROBERTS: I don't have any knowledge about it. And just let me suggest that both of you may get more satisfaction out of the questions you ask if you would direct them to Mr. Greer in terms of what the proposed rules say. I think he's going to be able to answer the

questions more readily than Mr. Dunn is.

Although Mr. Dunn has introduced the exhibit, he just did that for the purpose of getting it into the record early. And so if that would work with you, that would probably be more efficient.

MR. STOVALL: Actually I asked Mr. Dunn because he hasn't seen them and really hasn't had a chance to understand them. I'm interested in how he interprets them reading them kind of fresh. I appreciate that.

I have no more questions on that issue. I do have some other questions but not on that.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Dunn, you do agree with all of these rules with the way they're written and you don't have any problem adopting them for the pool?

A. That's correct, I do not.

EXAMINER CATANACH: Okay. Go ahead, Bob.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. While we're on the rules, let me go back to -- well, let me ask you a preliminary question first. This is a different approach for the Division to space a large area on less density, greater well spacing.

Prior to drilling wells in establishing information, the practice is to go from small and build up. And this is kind of changing that; is that correct?

A. That is correct. The usual procedure is the opposite.

Q. Am I correct in understanding in what you've said is that the reason that Merrion is proposing this and is supported by the other operators is given the knowledge of fractured Mancos in general there's a recognition that you can end up with too dense a well spacing early on and it's better to -- it's in the interest of conservation to prevent the drilling of unnecessary wells to start large and then look to see if you need to go smaller?

A. I think that's a good summary. The fracture Mancos shale is by its nature a special animal. It produces from fractures. And you're capable of draining large areas with one well.

And so it can be easily over-drilled if you're not careful.

So in recognition of the nature of the reservoir, it's not usual, so therefore we think it should be treated a little differently than you would normally for a regular sandstone reservoir, say.

Q. And if I understand the term competitive drilling or competitive operations, as you've used it, essentially what you're saying is if you drill a well and it offsets -- and your offset neighbor looks at it and says, "That's a good well. I'm probably getting drained," then that neighbor has to go drill a well on whether a spacing is appropriate that for that area because that's how the ownership of the production is determined; is that correct?

A. That's correct.

Q. And if that density is smaller, if that spacing is smaller, say if it's 40 or 80 or even 160, if you drill a good well on that smaller spacing, then whoever offsets you may even under federal requirements may be obligated to drill another well just to protect their legal interests and not necessarily to recover

additional reserves; is that correct?

A. I think that's right.

Q. Now, you have proposed a federal unit with boundaries which are the same as your proposed pool; is that correct?

A. That is correct.

Q. If that unit is approved -- first off, do you know whether you're proposing a divided or undivided unit, or do you understand the difference? I realize that's getting into land questions and you're not a landman. But do you understand the difference?

A. I do not know what we've applied for. I would defer that question to Al Greer; he does know.

Q. Is it your understanding from an operator's standpoint that if the unit agreement is approved and it is determined that 640 is too wide, that the problems normally inherent in down-sizing spacing units can be addressed through the unit agreement to provide that equities will be protected through the unit agreement if increased density is going to be appropriate?

A. I don't know if I'm qualified to answer

that question.

Q. Okay. With respect to Rule No. 3, it provides wells 990 from the outer boundary and 10 feet from an interior line. I know there's been some discussion in the northwest about reducing the interior line distance requirements from, I think it's 330 feet in most cases, to some lesser distance at least with respect to quarter-quarter sections. Are you aware of that, or do you understand the general concept of that?

A. Yes. I think isn't it -- well, it depends on whether you're gas well or oil well spacing.

Q. Correct.

A. But in general this 10 feet is much less than what is provided for in statewide spacing.

Q. And the objective here, if I understand correctly, is to give you more flexibility as to drilling locations within a proration unit --

A. That is correct.

Q. -- to not narrow your little window.

Given the fact that you don't know what you're going to find out here when you start drilling on this, what would your opinion be

with, say, looking at quarter sections? Probably not likely to go any smaller than 160 in this area, isn't that correct, that you wouldn't be interested in drilling on anything less than 160?

A. Well, I couldn't envision it going even to 160s frankly, but I would think that might be a reasonable minimum.

Q. Would it be appropriate perhaps to say that -- revise that to say not closer than, say, 330 feet to a quarter section line to keep you within a window within a quarter section so if you do infill drilling or down-sizing and you've got a little more centralization within the quarter sections; would that make sense?

A. Well, I have -- the 10 feet gives you a bigger window to pick your location without having to come back to the Division to request an exception. It's just to me a time saver.

I certainly have, if the Division feels strongly they want to make it consistent with prevailing rules, I have no problem with that. It would just require that, you know, we would have to request an exception to that for whatever reason.

Q. The concern is not making it consistent

so much with the existing rules --

A. With future spacing?

Q. -- but thinking in terms of the fact that there may be some down-sizing or infill drilling.

A. Oh, I see.

Q. And I'm not concerned with respect to within a quarter section and quarter-quarter section boundaries but within a quarter section. Does it give you enough flexibility to, say, go 330 from the interior line of a quarter section, would you think --

A. Well --

Q. -- or is there another distance greater than 10?

A. Well, offhand I think it would give us enough flexibility, but again I don't fully comprehend why 10 feet, to be quite honest, and I think that's something that the committee came up with. It's certainly something that we could support.

But I would defer to Mr. Greer to maybe give you some insight as to why 10 feet and not 330, say. I understand with you're saying, if you space it now with an interior line, that

bears some resemblance to future possible spacing. You don't have problems with wells located in unusual spots for that spacing.

Q. You could get real cluster drilling actually with a 10-foot margin if you did some infill?

A. Sure could.

Q. Looking at Exhibit 2, Part 1, your map, I think you've indicated that you've given notice to everybody in the two townships plus some surrounding lands; is that correct?

A. That's correct.

Q. Your scale here or your legend does not identify the red, which apparently is Indian allotted, is that correct, the red stipple or orange, I guess?

A. Yeah. There's an orange stipple that is Indian allotted, that's correct.

Q. Do you know if those are leased or unleased tracts?

A. I do not know. Do not know.

Q. Your notice then, I notice the Bureau of Indian Affairs is on your notice list. Is that to whom you gave notice for the purpose of those tracts?

A. I believe that's correct.

Q. I think that's it with one -- let me just look real quick at my notes.

A. I might say that it says on Exhibit 5, Part 1, which is the listing, the notification list under Bureau of Indian Affairs, that all Indian allotted lands are listed next to Bureau of Indian Affairs. That would indicate to me that our intent was to notify the Bureau of Indian Affairs as a representative for those allotted leases.

Q. I would express some concern particularly within this narrower area that you may not have given notice to the owners of working interest in the Indian allotted leases if in fact any of them are leased, and that's something that you might be concerned with.

Another issue I'll raise with respect to notice and, Mr. Roberts, I direct your attention to it as well, I'm assuming you have not given notice to royalty owners but for the fact that you've given notice to the Bureau of Land Management really as a working interest owner in the unleased tracts; is that correct?

A. That is correct. We notified the

Bureau of Land Management due to the unleased acreage.

Q. According to your exhibit, the Bureau and the State are really the royalty owners in all of the lands; is that correct?

A. That's correct, within the pool boundaries, the state and the feds.

Q. Are there at the present time any Mancos wells operating with the possibility of outstanding Division orders whose spacing might be affected by this, or did I hear you correctly that all Mancos wells have been abandoned?

A. That's correct, with the exception of the disposal well which we operate. There are no productive Mancos producers in this area.

Q. And I assume there's no Division order on the disposal well?

A. I don't believe so.

MR. STOVALL: I would advise you, Mr. Roberts, in light of the Uden order with regard to spacing, my interpretation in taking a fairly narrow approach is that the provisions of that decision from the Supreme Court requiring notice to royalty owners probably could be limited to royalty owners in existing spacing units for

which there is a Division order in which there is vested interest, if you will, in the spacing union.

However, since we have not yet adopted rules with regard to that, I would recommend that you review and discuss the risks of not notifying royalty owners, if any, and presumably you could apply the same interpretation to overrides in the entire area. I'm not going to make any recommendations that additional notice be given, but it certainly is a consideration.

And the other thing that I would ask is that you just simply prepare an affidavit to the effect that Mr. Dunn has testified with respect to having given notice to the parties listed on 5, Part 1 and 5, Part 2, just stating that notice is in compliance.

MR. ROBERTS: He's testified to that.

MR. STOVALL: He has testified to that. I'm kind of establishing a practice of having an affidavit associated with the notice in the files.

MR. ROBERTS: I thought that was an alternative to the rule.

MR. STOVALL: Well, technically it is,

but I would appreciate an affidavit to put it together.

And I have no further questions.

EXAMINER CATANACH: Is there anything else of that witness?

MR. ROBERTS: Mr. Examiner, I have one question on redirect.

FURTHER EXAMINATION

BY MR. ROBERTS:

Q. Mr. Catanach asked you about the well that produced 20,000 barrels. Is it possible that that well drains greater than 640 acres?

A. It's possible.

MR. ROBERTS: I don't have any other questions.

EXAMINER CATANACH: Anything else? The witness may be excused.

MR. ROBERTS: Call Doug Endsley.

DOUG ENDSLEY

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

EXAMINATION

BY MR. ROBERTS:

Q. Would you state your name and your place of residence for the record?

A. Doug Endsley. I live in Farmington, New Mexico. For the record, since I didn't bring a card, the spelling is E-n-d-s-l-e-y.

Q. What is your occupation?

A. I'm a petroleum geologist.

Q. How long -- who are you employed by?

A. Merrion Oil & Gas.

Q. How long have you been employed by Merrion?

A. Nine years.

Q. Could you give us a general description of your job responsibilities?

A. I'm the geology manager. I oversee all geological operations in the company.

Q. Are you familiar with the activities and operations of Merrion Oil & Gas in the area that is the subject of this application?

A. I am.

Q. And are you familiar with this application?

A. I am.

Q. Have you testified on any prior occasions before the Oil Conservation Division?

A. I have not.

Q. Would you briefly describe your

post-high school educational background?

A. I have a BS from Fort Lewis College in Durango.

Q. And briefly describe your occupational background subsequent to the completion of your formal education.

A. I've worked for an independent geologist for three years, and I've worked for Merrion for nine.

Q. Do you have any professional certifications or registrations or affiliations?

A. I'm a Certified Professional Geologist. That certification number is 4703.

Q. What have been your responsibilities with respect to this area that is subject to this application?

A. I've pretty much come up with the geologic model that we're trying to explore here.

MR. ROBERTS: Mr. Examiner, I would tender Mr. Endsley as an expert in the field of petroleum geology.

EXAMINER CATANACH: Mr. Endsley is so qualified.

Q. (BY MR. ROBERTS) Mr. Endsley, would

you refer to what's been marked as Applicant's Exhibit No. 6 and identify it?

A. Exhibit No. 6 is a type log from the Media Entrada Unit. And its purpose is to demonstrate the vertical limits that the committee set out in Rule No. 6 in Exhibit No. 1.

Q. Would you identify the well in the location?

A. It's the Media Entrada Unit No. 3, and I notice on the exhibit that it shows it's in the southwest of the northwest of Section 14. It's actually the northwest of the southwest of Section 14, 19 North 3, West.

Q. And while we're talking about the location of the well, can you refer to Exhibit No. 7 and point out the location of the well on that exhibit?

A. Well, I suppose I can, for the sake of you guys down at the other end of the table, in the southwest quarter of Section 14, you'll see a little M-E-U No. 3 there in the northwest portion of that quarter section. And that's the well that I've used as a type log.

MR. STOVALL: The injection well or the one next to it?

THE WITNESS: It's the injection well, but let me clarify that. That was an Entrada injector, not a Gallup injector.

MR. STOVALL: I'm mostly concerned with the symbol. That helps to identify it.

THE WITNESS: Okay.

Q. (BY MR. ROBERTS) Now, Mr. Endsley, referring again to Exhibit No. 6, will you, please, identify the significant markers, geologic markers there?

A. Okay. What I've done is I've just gone in and highlighted the main formations within the interval. The first one is the Point Lookout. That's a fairly interpretive top. But that's where I've chosen to place it. The Mancos shale. I've got the 500 feet below the top of the Point Lookout that's set forth by the committee.

I've got the Mancos A, Mancos B, Mancos C, and Mancos D. That terminology actually originated with Gary Williams in their Rio Puerco Unit. I've identified the Greenhorn and then the base of the Greenhorn.

Q. Is the base of the Greenhorn Formation a point upon which there is agreement among

petroleum geologists?

A. That's correct, there's a large conductivity kick associated with the base of the Greenhorn that you can't see right here because I've got this black line blocking it off. But it's a well-known marker, easily identifiable.

Q. Now, you indicated that the top of the Point Lookout Formation is fairly interpretive, I think, is how you've characterized it. How did you identify the top of the Point Lookout?

A. Well, I just picked the largest sand body below the last coal in the Menefee. The Menefee is not shown on this particular exhibit. But by definition the Point Lookout is the first sand below the last coal in the Menefee Formation. And in essence I just stuck to that.

Q. How would you characterize the interval identified as the Rock Mesa Fractured Mancos Shale Formation in terms of porosity and permeability?

A. I haven't included a density log, but you can see in this area there is no inherent matrix porosity, and I'm assuming that there's no inherent matrix permeability. So consequently with that in mind, in order for these things to

produce, they should produce from fractures.

Q. Okay. What was the basis for selecting this interval to be designated as the Rock Mesa Fractured Mancos Shale Formation?

A. More than any reason was just to stay consistent with what the committee had come up with in 1988.

Q. In your opinion is it reasonable to define this formation by reference to this particular interval?

A. Yes.

Q. Now, I would like for you to refer to your Exhibit No. 7 and identify that exhibit.

A. Exhibit No. 7 is just a repeat of Exhibit No. 3 only I've included structure contour lines. And those are time structure contour lines from seismic control that we have in the area.

Q. Are the boundaries of the proposed pool illustrated on this exhibit?

A. That's correct.

Q. And how are they illustrated?

A. The heavy bold black line.

Q. And Exhibit No. 3 also showed this fault trace line. Mr. Dunn identified it. How

was that fault located?

A. We have seismic control that's not shown on this map. We have over 3,000 miles of seismic in this area. And the fault is well-defined. Where it's solid on this map, it's well-defined on the seismic; where it's dashed, the data quality is not quite as good and we're inferring it through there. We can see an offset, but it's not as clear as it is to the south.

Q. In what way does the data depicted on this exhibit justify the proposed horizontal boundaries of the pool?

A. In essence what I was trying to illustrate here was the steepening of the dip on the east side of the fault, which necessitates the fractures that we think we're going to be after. The geologic model is such that the down-thrown side of the fault we feel is more highly fractured than the up-thrown side of the fault.

So consequently we gave ourselves a little wider eastern edge to the pool boundaries than we did to the western edge. The western edge we in essence just picked a half a mile

limit to the west and said that, you know, that it's probably not as highly fractured on that side of the fault but we needed a buffer zone in there to test.

Q. Is there anything magic about these proposed boundary lines?

A. No, sir, there's not. This is purely a geologic concept, and it doesn't necessitate that this is the only place that it would be productive.

Q. Is it likely in your opinion that there are other subsurface faults outside the boundaries as illustrated on this exhibit?

A. Yeah, I know that there are.

Q. In your opinion do the proposed boundary lines in any way reflect on the potential productivity of those lands outside the boundaries?

A. No, I don't.

Q. Mr. Endsley, were Exhibits No. 6 and 7 either prepared by you or at your direction and under your supervision?

A. That's correct.

MR. ROBERTS: I would move admission of Applicant's Exhibits 6 and 7.

EXAMINER CATANACH: Exhibits 6 and 7 will be admitted as evidence.

MR. ROBERTS: I have no other questions of this witness on direct.

EXAMINER CATANACH: Mr. Padilla.

EXAMINATION

BY MR. PADILLA:

Q. Mr. Endsley, looking at your Exhibit No. 7, is the reason that you drew the contour lines through the upper half of the pool area through the fault line is that you didn't -- you weren't sure whether it extended that far north?

A. That's correct. We have, like I said, the data quality up there is starting to deteriorate. We think we can see offset in there, but we're not sure.

Q. You mentioned some seismic information upon which you based these contour maps or your contours. Did you have any seismic lines running through this area?

A. This area is inundated with seismic lines. This area was heavily shot by Flawn in 1975 roughly in their search for Entrada fields, and we have access to all that data.

Q. In terms of drainage, does this

structure have anything to do with drainage?

A. Only in the sense that the structure may affect the degree of fracturing.

MR. PADILLA: I have nothing further.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Endsley, you said the top of the Point Lookout is somewhat subjective?

A. That's correct. It's interpretive.

Q. Do you think that's going to be a problem in this area as far as defining the pool limits? Or let me ask you this. Should the pool rules utilize this type log as a reference?

A. Well, if I can offer an opinion, I don't think that it was -- using the top of the Point Lookout wasn't necessarily the best marker to use. If it had been up to me, which it wasn't, I would have used the top of the Mancos Shale and some vertical distance below that since the Mancos Shale is a much more easily identifiable formation than the top of the Point Lookout.

The depositional nature of the Point Lookout is such that it doesn't necessarily have a distinct top in all parts of the basin.

Q. Is it likely there's going to be any production encountered in the Upper Mancos portion?

A. I would --

Q. Above?

A. I won't rule it out, but it certainly wouldn't be -- from what we've seen so far, it certainly wouldn't be a real strong possibility. And I think that's why they picked 500 feet below the top of the Point Lookout.

This specific interval that I've identified as Mancos A through D is actually the equivalent of the Niobrara or the Gallup or any other terminology that you would want to use and it's traditionally the productive interval.

Q. So it's possible you could have Mancos production out of your proposed pool boundary, the vertical limits of the pool?

A. It's possible. It may not be probable, but it's possible.

Q. Would you suggest using the top of the Mancos as the pool boundary, the top of the vertical limits?

A. To me that makes more sense, but that's just an opinion. The reason I say that is from

experience over in another area in the basin, the Canyon Largo Unit, we have established some minor production below the base of the Point Lookout and above this particular limit that's been established here from the Mancos Shale.

But those are siltier, almost sandy areas that we're getting the production from, so they're not fractured. It's not fractured production per se.

Q. Is it likely on the west side of that fault that you would have -- would it be significantly less production because it's less fractured?

A. That's the theory that I'm subscribing to right now. I think that there's going to be a certain area along the fault that would be affected. The fault is not only exhibiting vertical displacement, but there's lateral displacement along the fault as well. And consequently you're going to have a little more fracturing take place because of the left lateral displacement along the fault.

So I believe that there will be an area along the up-thrown side of the fault that's fractured, but it's not going to be as highly

fractured as it would be on the down-thrown side of the fault. And that's well documented in the literature. I mean, this isn't something I just dreamed up; this is in the literature.

Q. It still could be productive on the west side?

A. It still could be, that's correct.

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

Bob, do you have anything?

MR. STOVALL: I did but I can't remember what it was. It wasn't important. Yeah, I do have one.

EXAMINATION

BY MR. STOVALL:

Q. Are you familiar with the San Isidro Unit Area --

A. I am.

Q. -- in the operations up there? Is this comparable to it? different? The fault goes in a different orientation, does it not, or the fold?

A. That's correct. This particular fault that we're chasing here is a north-south oriented fault. The fault in the San Isidro Unit is more of an east-west running fault.

Rather than actually offsetting the beds that they're producing, they have drape across that deep-seated basement fault and the rocks are broken accordingly. This is actually a vertical displacement through the interval that we're trying to produce or wanting to produce from.

Q. So you think it will produce differently than that area, or can you draw any analogies from it that are helpful to you?

A. The only analogy that I can draw is that it's the same package of rocks that they produce from that we're targeting here. As far as the mechanics of the production, I can't offer an opinion.

Q. Just to clarify my own mind, your question with respect to the top, you've kind of got -- there were two parts to the question really: Number one, if I heard you correctly, the top of the Mancos, as you've marked it, is easier to identify in a log; is that correct, just pure identification?

A. That's correct.

Q. And you've also stated that there is the potential that there's some perhaps minor

production from the area between the top of the Mancos and the top of the A zone?

A. Actually it's between the top of the Mancos and the 500 feet below the Point Lookout top that the committee picked. We have had production within that interval in other parts of the basin. It's minor, but it has produced.

Q. Having expressed your opinion that the top of the Mancos would be a better marker, is that opinion based upon both of those factors, both the ease of identification and the potential for recovery from that zone?

A. That's my opinion.

MR. STOVALL: Okay. I have nothing further.

EXAMINER CATANACH: Anything further?

The witness may be excused.

MR. STOVALL: You didn't give Mr. Kellahin a chance.

EXAMINER CATANACH: I asked if there was anything further.

MR. KELLAHIN: I have a witness.

EXAMINER CATANACH: Let's take a couple of minutes here, Tom, before we start on this.

[A recess was taken.]

EXAMINER CATANACH: Call the hearing back to order. And, Mr. Kellahin, you may proceed with your witness.

MR. KELLAHIN: Thank you, Mr. Examiner. At this time I'd like to call Mr. Al Greer

ALBERT R. GREER

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

EXAMINATION

BY MR. KELLAHIN:

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

A. Albert R. Greer. I'm a petroleum engineer.

Q. Where do you reside, sir?

A. Farmington.

Q. Are you one of the principals in Benson Montin and Greer Drilling Corporation?

A. Yes, sir.

Q. And does your company have a working interest position in the proposed area that Merrion seeks to have spaced by this Examiner?

A. Yes, sir. We have an interest in the acreage identified as Jordan.

Q. Have you had experience with fractured Mancos reservoirs in the San Juan Basin of New Mexico?

A. Yes, sir.

Q. Describe for us what particular areas that you draw that experience from.

A. I've studied West Lindrith, Gallup, Dakota, West Puerto Chiquito, East Puerto Chiquito, Gavilan, and I made a cursory study of Rio Puerco.

Q. Did you participate as an expert witness before the Commission in what is characterized as the Gavilan Mancos hearings?

A. Yes, sir.

Q. And you have made presentations to the Bureau of Land Management and to this Commission with regards to your own operations in the Canada Hito Unit?

A. Yes, sir.

Q. Is that fractured Mancos reservoir production?

A. Yes, sir.

Q. Have you published any technical papers with regards to Mancos reservoirs?

A. Yes, sir.

Q. Describe for us what your publications are.

A. Well, I've coauthored papers for the AAPG, one ten, fifteen years ago, then another one last year on West Puerto Chiquito and little summary studies for the Geological Society in northwest New Mexico.

MR. KELLAHIN: Mr. Examiner, we tender Mr. Greer as an expert petroleum engineer.

EXAMINER CATANACH: Mr. Greer is so qualified.

Q. (BY MR. KELLAHIN) Mr. Greer, before we get into the specifics of the proposed rules and some of the details of your study, I'd like for you to give us an overview as a reservoir engineer of the reservoir characteristics that you in your opinion would have believed to be appropriate for the Mancos reservoir that this area is seeking to space.

What are the critical elements, and what is that description?

A. The potential productive zone here is a member of the Mancos formation, fractured shale. And the fractured shale on the east side of the San Juan Basin is characterized by low volumes of

oil in place. And it's extremely misleading to attempt to analyze the reservoir from the standpoint of productivity of wells.

A well, for instance, that produces a certain volume of oil from a sand reservoir will have an order of magnitude greater oil in place than a well with the same capacity producing from fractured shale. And this misleading characteristic has led to many problems with respect to spacing.

The wells will bring large areas where they're connected with a fracture system, and most of these pools have a very clear-cut fracture system within the pools. Some wells are well connected with the fracture system, some are not. But so far that's been a characteristic of all these pools.

Q. Does the matrix in the reservoir contribute significant oil to ultimate recovery in these fractured Mancos reservoirs?

A. Well, matrix porosity, as we ordinarily think of it, is like a sand porosity. And it's my opinion that that does not contribute to production in these fractured Mancos reservoirs.

Q. Can a knowledgeable reservoir engineer

such as yourself take information utilized from a fractured Mancos reservoir and apply conventional sand reservoir methodology to determining recoverable oil in the Mancos Reservoir?

A. No, sir. It's just, as Steve Dunn said, it's just a different animal.

Q. How do you as a reservoir engineer satisfy yourself then about appropriate spacing when you're dealing with a new area of potential Mancos production as proposed for the Rock Mesa area?

A. Well, we found despite the fact that there is a wide range of recoveries on, say, a per well basis of wells in these different pools, there's a smaller range of recoveries on a per acre basis. And when we look at the pore volume of the reservoir, it's even more nearly similar, like an only 2-to-1 ratio of hydrocarbon pore space.

Q. Does that information translate and become applicable to an area like the Rock Mesa that's proposed here?

A. Yes, sir. What it means in general and in figures that we've come up with for solution gas drive, which is about the only type of

recovery we can expect in this area, we're looking at 5 to 6 percent of the oil in place as being recoverable.

And the oil in place runs from with hydrocarbon pore space roughly 1,500 to 3,000 barrels an acre, somewhere around 1,000 to 2,500 barrels an acre. And so this all means that we're looking at about 100 to 150 barrels an acre of recoverable reserves. And that's for high capacity wells, low capacity wells, they just are in that range.

Q. Let me direct your attention to Mr. Dunn's exhibit in which he has the spreadsheet on economics. It's Exhibit No. 4. Have you reviewed that spreadsheet prior to today's hearing, Mr. Greer?

A. Yes, sir.

Q. In your opinion is that an effective and economic way to space this particular area so that you have effective and efficient wells drilled at appropriate spacing?

A. Yes, sir. It shows very clearly that if one starts out on 320-acre spacing that the best you can look for is marginal economics. And it just doesn't make sense to start off with a

handicap in which there's no real incentive for an operator the make a profit. 640 acres, as he shows here, is the only way to start out.

Q. Mr. Dunn in the first line of his spreadsheet identifies a volume of oil recovery per well of 125 barrels.

A. Per acre?

Q. Yes, sir. Do you see that number?

A. Yes, sir.

Q. Is there a reasonable engineering basis for that number in your opinion?

A. Yes, sir. That's midway between 100 to 150 barrels an acre that we found throughout the east side fractured Mancos reservoir for solution gas drive.

Q. Direct your attention to what we've marked as the BMG Exhibit No. 1. Is this information you have tabulated and prepared?

A. Yes, sir.

Q. What were you trying to determine when you prepared this?

A. I wanted to point out that individual wells that have produced large volumes of oil have not necessarily been underlain by very good oil reservoir or reservoirs with high volumes of

oil in place.

The range of recoveries of these Mancos Formation wells on a well basis runs in some areas from 15- to 20,000 barrels a well to as much as 1-million-and-a-half to 2 million barrels. That's two orders of magnitude difference from one area to the other.

Looking at the same areas on per acre recovery, they run like from 80 barrels an acre to 800 barrels an acre. And the 800 barrels an acre is where the reservoir is such that gravity drainage has contributed significantly to the recovery. That's the main difference.

Now, the hydrocarbon pore space covering these same areas is only a 2-to-1 ratio, 1,500 to 3,000 barrels an acre. So the main difference then in areas in which there are large recoveries per well depends on two things primarily: whether there's gravity drainage and the amount of acreage available to each well to drain.

Q. All right. Let's take that information and apply it to the proposed Rock Mesa space area. Would you expect to see a hydrocarbon pore space barrel per acre volume in the higher range

or in the lower range?

A. I would expect it would be more in the lower range here.

Q. And what accounts for that?

A. Well, there's not as much what I would call character on the resistivity feature of the electric logs which we found in other areas. And where there's high resistivity, there appears to be more brittle zones that respond better to fracturing.

Q. So then when Mr. Dunn uses what amounts to the 1500 barrels per acre pore volume space, it's translated into his spreadsheet, that becomes a reliable number for you?

A. Yes, sir. It's certainly not too high.

Q. Mr. Dunn made reference to an industry group that was formed some time back to study Mancos production. Were you part of that effort?

A. Yes, sir.

Q. Who organized it and what was the objective and why was this done?

A. Well, Frank Chavez with the OCD office in Aztec was hopeful that he could bring different companies together who had been at odds

in some of the hearings concerning spacing of the fractured Mancos wells to see if there was some consensus that could be reached or come up with a plan for exploring for the fractured Mancos production and avoiding the problems that became evident as the hearings in Gavilan progressed.

Q. Provide the Examiner with a short summary of the background of Gavilan and the kinds of problems that the operators were experiencing in Gavilan Mancos that you are now seeking to avoid the next time you got ready to develop a Mancos reservoir.

A. Yes, sir. The discovery well in the Gavilan area found itself located between the West Lindrith, Gallup-Dakota Pool, which is spaced on 160 acres, and West Puerto Chiquito on the other side with 640 acres and appeared to have characteristics much closer to that of West Puerto Chiquito than of the pool on the west.

Even so the operators realized there's kind of a problem in going from 160-acre spacing to 640-acre spacing, and generally they thought -- the majority, I'd say majority of those Gavilan thought that they could --

Q. Excuse me, you're soft-spoken, and we

have competition for your time. Please continue.

A. The majority of the operators thought that maybe a practical solution being in between these two differently spaced areas would be to go halfway between 320 acres. And hopefully there would be adequate reserves to make it economic.

Q. Did that prove out to be true?

A. Well, to a certain extent. What happened in Gavilan was relatively high capacity wells were developed. There was tremendous communication within the pool and extended north for a township or more. And so the original Gavilan wells were draining large areas.

And the final recovery in Gavilan turned out to be like 200 barrels an acre. But a good part of that was migration from the north part of Gavilan in the Bear Canyon area. And so, although some of the wells were economic, overall it was not really the kind of economics that the industry should have realized for the high capacity wells that were found in Gavilan.

Q. In your opinion was it determined that the Gavilan area represented examples of wells being drilled too close together even when they

were drilled on 320-acre spacing?

A. Yes, sir. In the course of the Gavilan hearings, the spacing in a sense went from 160 acres to 320. And finally the Commission's final rulings was 640 acres for Gavilan with an option for a second well.

At the end of the development in Gavilan, the north part of Gavilan, the Bear Canyon area, it's been developed on a drill density of about 1 well to 1,000 acres. That was kind of the sequence: 160 acres, 320 acres, 640 acres, 1,000 acres.

Q. What were the problems identified in the Gavilan Mancos disputes that you are now seeking to avoid as part of this study group in formulating general rules then to apply to the unique nature of Mancos reservoirs?

A. Simply that it's easier and simpler to down-space than it is to up-space. You just can't undrill those unnecessary wells. And it's a very simple process to down-space if later on it's determined that that's the way to go.

Q. Describe for us where the Rock Mesa area is in relation to Gavilan Mancos and some of these other pools that you've described.

A. Would be five or six townships south of Gavilan.

Q. Let's turn to a discussion, if you will, please, of the specific rules so that we can get the benefit of the committee's discussion on those rules and what is the ultimate decision of that committee.

A. Well, as you can imagine, where there was a committee representing operators who had diverse opinions, there were quite a few discussions and each of the points were discussed at length.

Q. Let me interrupt you. Members of this committee were on both sides of the issues in the Gavilan Mancos hearings, were they not?

A. They were, yes.

Q. So you had a group of operators that were active in Mancos that were gathering all points of view?

A. Right. And Frank Chavez' concern was that there would be additional wells drilled exploring for the Mancos outside of designated pools and what should the rules be for those new wells. And once production was established in an area, then information from that area could be

used to change the rules or develop additional rules or modify the rules or whatever.

But to begin with, in order to avoid the problem of over-drilling, and it's just almost impossible to avoid over-driling if the spacing is too small. If an operator drills a commercially productive well or, say, one that looks even of a higher capacity than what would ordinarily be considered economic and the spacing is 40 acres and there's a man with 40 acres offsetting him on five sides, why they're going to go drill them.

And all of a sudden you've got an over-drilled area and then the problem of up-spacing, royalty owner problems, working interest owner problems, all kind of problems. They're just completely avoided by going the other way.

Q. Was there a consensus among the participants in the study group that 640-spacing was the appropriate initial temporary spacing pattern to apply to a Mancos reservoir?

A. Yes, sir. They were all agreed to 640 acres. The one problem which the committee recognized and tried to solve is that you drill

the well on 640 acres, and it misses the fractures.

Q. How did you address that concern?

A. That concern we addressed by making a provision that if the first well was a small well, then there would be permission allowed to drill a second well on that 640 acres. But if the first well is a high capacity well, it obviously would drain its area, then there's no point in drilling that second well. In fact, that would be a mistake.

And so I thought it was a good solution. In fact, I think all the members of the committee thought that was a good compromise of going from a very rigid 640-acre spacing to allow the flexibility of a second well if that first well and only if that first well was a poor producer.

Q. How did the committee resolve the issue of where within the 640 acres to locate that initial well?

A. Well, again that was the subject of a lot of discussion. And typically on 640-acre spacing, one would expect the setback distance from the proration units' boundaries to be

relatively high, at least a fourth or maybe even a third of the width of the spacing unit.

But here again the operators wanted flexibility in locating their well. And the reason for that was, as time progressed and more information was developed particularly with respect to seismic activity and the ability to pinpoint locations better than they had in the past and if the fracture zone that the operator interprets is close to his boundary, he'd like to get into that fracture zone. The offset operator would just as soon he doesn't.

But the compromise there, and again I think it's a good compromise, is to allow a lot of flexibility in locating that well. And so for that reason --

Q. Well, flexibility within the drilling window that sets back 990 from the outer boundary?

A. Right, within the drilling window and to make the drilling window a big drilling window. As was noted here a little earlier, perhaps if we're looking at possibly down-spacing in the future, the well should be located closer to the center of the quarter section to permit

that. We considered that.

But particularly, I think it was Amoco and Mobil who were feeling better about their ability to interpret seismic work, they just wanted lots of flexibility in locating that first well.

And the net of it was that we felt like the flexibility in locating the first well overrode the concern of trying to put the well in the center of a quarter section.

Q. Were these all knowledgeable operators with experience in Mancos reservoir drilling and production?

A. Oh, yes, sir, lots of experience.

Q. What was the solution, if any, with regards to people that would ask for an unorthodox location or a variance exception to the 990 setback?

A. We felt, and we had a pretty good consensus on this, that if we allowed going close to the boundary, by close we meant like 990 feet, then to crowd beyond that to the offset operators' line, there should a rather severe penalty.

And so we decided, well, we'll allow a

lot of flexibility, let the operator get close to the line, but not let him cheat on that and get closer even than the rules allowed without a severe penalty.

Q. In balancing the need for a wider spacing area, the dedication of 640 with integrating a flexibility in terms of well locations, what did you utilize then as a penalty if someone should seek to get closer than 990 to the outer boundary of this section?

A. We decided the best thing to do would be to take the distance of the actual bottom-hole location of the well, that distance from the line, divide it by the allowed distance, 990 feet, take that quotient and cube it. And that gives -- first we talked about maybe taking the direct proportion, and then we talked about taking the proportion and squaring it. And that didn't seem like a severe enough penalty, and so the consensus was to cube it.

Q. We spent a lot of time in the Gavilan Mancos hearings talking about producing allowables for a spacing unit. Did the committee address that issue?

A. Yes, sir. We felt like probably the

standard depth allowable for the areas on the east side of the basin would be 1280 barrels per day.

Q. For 640-spacing?

A. For 640-acre spacing. But one of the problems of having a real high allowable is that with this fractured reservoir, if we might make a comparison, say, we have two tracts fairly close together, the same number of fractures in the formation in each tract, one tract has -- the fractures are wider, the aperture is wider than in the other, that tract with the wider fractures, even though it's the same number of fractures, will have a higher productivity than the other. It will also have more oil in place than the other.

But the problem is that the productivity increases at a far greater rate than the oil in space. And so the greater the difference you have in productivity across a pool, the greater is going to be the problem of protection of correlative rights.

Q. Why is that true?

A. Well, the wells with the higher productivity will drain not only their tracts,

they'll drain the other tracts. So we decided to come down from the 1280 barrels. Some didn't want to come very far. And it was another one of those compromises. My personal opinion is it should be 2- or 300 barrels a day, but as a compromise, the committee settled on 800.

Q. Did the committee discuss or address controlling the gas withdrawal rates by some gas-oil ratio limitation that was other than exists in the statewide rule?

A. We just thought that's what we would go with.

Q. At least for an initial temporary set of rules, that was an issue that was of concern and could be addressed later?

A. Yes, sir.

Q. It was discussed earlier in the hearing today the language and choice of words here under Rule 2 with regards to nonstandard spacing or proration units. Before we deal with the actual language of the rule, describe for us whether or not this was perceived to be a particular problem in addressing nonstandard proration units, and if so, what were you worried about?

A. Okay. We were thinking about applying

this to the whole east side of the San Juan Basin. There could be townships with -- short townships and short sections, perhaps very uneven sections.

Q. And those exist up in the San Juan Basin?

A. Right. So we wanted to cover that situation. Of course as it applies here, Rock Mesa doesn't look like, just from cursory observation of the map, that we're going to have the kind of problems that we want to address here.

But rather than try to change the committee's work to address particularly the Rock Mesa, it just seemed like it was best to, as much as we could, use exactly the same language that the committee had in its recommendations because we didn't see how it could hurt anything.

Q. Are there any other rules here in the proposed temporary rules that you and I have not specifically commented on that we might need to address?

A. Well, I might point out something about this notice thing that was discussed a little earlier. At the time the committee was doing its

work was before so much attention has been placed on the problem of notice. We at that time were not as concerned or aware of the problems that might develop.

Q. Well, without regard to the specific language, let's have you address the kinds of elements that you thought ought to be accomplished in a rule in which someone is seeking a variance or a nonstandard proration unit. For example, whom did you think would be reasonably entitled to notice of that type of request?

A. First, what we were thinking about was the short sections, and say it was 320, approximately 300 or 400 acres in a section, okay, we didn't want a normal approval process to apply here; that there should be a notice and hearing unless the offset operators didn't object to it.

And so that was kind of how we reached that compromise is if there was going to be a big difference from the 640 acres, it just should not be approved administratively; they should have to go to hearing unless the offset operators didn't object.

Q. What's the reason for making that particular provision more restrictive than we might see applied to other sand reservoirs or elsewhere?

A. Well, it just could in itself create the very same problems we're concerned about of over-drilling. If there's a short section and the man drills a well on 320 acres and he's got the full allowable, the people offsetting him then are being drained if they're on 640.

Q. And pretty soon the exception becomes the rule?

A. That's exactly right.

Q. We talked a while ago about the vertical limits of the pool, and that's more specific than the general rules. But there was discussion about the vertical limits of the pool being large enough to adequately describe all the potential productive intervals in the Mancos and yet not be so broad that you encompass production that does not fit within this type of rule.

A. The production that we found so far on the east side, east side of the basin, was within these limits which we picked. I don't see that that's a really hard and fast thing. But one

thing the committee did recognize was the difficulty in picking some particular point within the Mancos. So that's why we selected a point above that that was easily identified on a log and go from there.

So I don't really, in view of the discussion earlier this morning, I don't see a real problem with whatever the Commission wants for the top of the zone. My personal opinion is that what they found back in Canyon Largo to the west will not occur here, but that's just my opinion.

Q. Let's talk specifically then about the Rock Mesa proposed boundary and area. There was some additional questions that were more site specific to this particular area. One of those is how do you solve the issue of describing a horizontal boundary for the area in which to apply these special rules?

From your perspective as an engineer, can you lend us any comfort that there is a reasonable starting place to the acreage that's proposed to be subject by these rules for this particular pool?

A. My personal opinion is it doesn't make

any difference. If the OCD would like to have a smaller defined area that, for instance, fits the proposed unit, I don't see that as a big problem. I don't see it gains anything.

Had we adopted the committee's recommendation the way it was made, then the whole east side of the basin would be subject to 640-acre spacing.

Then the thought was: You drill a well, you get production, then you determine the pool rules. Well, you're not going to determine it from the first well. It's probably going to take additional wells and two or three years before enough information is developed to determine what the pool rules should be.

In the meantime, had we thought of the committee's recommendation entirely and the whole east side is based on 640 acres, then anyone anywhere in this area would have to drill on 640 acres until they had accumulated information such as that.

So I don't see a lot of difference in what they're doing here. Somebody could come out, I guess, over a mile away from the proposed area here and drill on 40 acres. It doesn't make

much sense to me, but if that's the way the Commission would like to go, well, that's their prerogative.

But certainly for this area in which the operators propose the unit and plan to drill, it needs to be protected by 640-acre spacing.

Q. In order to adopt efficient and economic rules for this particular reservoir, in your opinion can the Division apply the process of taking an initial discovery on any particular spacing and then, as development occurs, expand the pool? What's wrong with doing that?

A. Well, you're apt to wind up with too many wells if you don't have the restriction of preventing the drilling of unnecessary wells. Once a man has drilled a well on, say, 80 acres and he's made his Division order and he pays his royalty owners on that basis and then the decision is to up-space, there are a lot of very unhappy royalty owners that all of a sudden their royalty is cut in half or a fourth and they don't like it, and you can understand that.

Down-spacing is so much simpler. If you have a well on 640 acres and spacing is 640, you down-space to 320, all the Commission has to

do is say for the existing proration units, there's a second well permitted on that 640 acres.

That royalty that's been getting 2 percent of the production from that 640 acres in the past will in the future get 2 percent of the 640 acre production from two wells now instead of one. You may not even have to write a new Division order for him. And then the other tracts, on which there are no wells drilled, well, they just simply go to 320-acre spacing.

So it's very simple to down-space. Up-spacing is very difficult.

Q. Merrion has proposed this configuration to be consistent with the area they scribed for their anticipated federal-state unit?

A. Yes, sir.

Q. Can you draw from your experience in the Canada Hito Unit to give us any comments with regards to having spacing be consistent and conform to the same pattern within the confines of the unit?

A. The Department of Interior over the years has had a lot of changes in personnel, and from time to time they have a different ideas.

But in general what the unit agreements call for is that you drill exploratory wells until production is established.

Once you establish production, then you form a participating area. And you go to the BLM, who now has the authority to determine these things, and you submit a plan of development each year.

And that plan of development typically is approved by the BLM. Where there are state lands involved, the state has the right to look over that plan, and the OCD has the right also to look over that plan.

When all three of these authorities have approved the plan, then that's how you proceed with additional development. And spacing will have a bearing on the additional development and where the wells are located.

Q. Based upon your review and study and background knowledge of the Mancos reservoir, in your opinion is approval of Merrion's application in this case warranted and justified in order to prevent waste and protect correlative rights?

A. Yes, sir.

MR. KELLAHIN: That concludes my

examination of Mr. Greer. We move the introduction of his Exhibit No. 1.

EXAMINER CATANACH: Exhibit No. 1 will be admitted as evidence.

Mr. Padilla?

EXAMINATION

BY MR. PADILLA:

Q. Mr. Greer, would there be gravity drainage in this proposed pool?

A. In my opinion there's not enough structural relief to provide gravity drainage. I think that's very unlikely. After drilling wells we may find that it's different from what we think now. But at this juncture it would seem to me not likely.

Q. Essentially you have a flat reservoir?

A. Or gently sloping.

Q. But it's not like your West Puerto Chiquito --

A. No, sir.

Q. -- Pool that has a big slant to it?

A. No, sir. I would not expect that.

Q. How does drainage -- well, how is drainage affected by the fact that you have gravity drainage in, say, the West Puerto

Chiquito Pool and in this pool where you don't have --

A. Where we don't have it?

Q. -- where you may not have it?

A. Okay. The difference is that what we're looking at here for a recovery mechanism is simply solution gas drive, or some people call it dissolved gas drive. And it's, you know, a very inefficient recovery method. But at this point it looks like that's all we have to go by.

Q. Well, I guess there is -- what you're saying -- there may be some influence with regard to drainage if you have gravity drainage coupled with, say, a solution gas drive?

A. Gravity drainage can help significantly in increasing the recovery.

Q. And it would make more sense in that sense to have wider spacing?

A. It's an option that we took advantage of in West Puerto Chiquito.

Q. You certainly had more flexibility probably in West Puerto Chiquito in the way you configured that unit --

A. Right.

Q. -- and the pool itself and how you

developed the pool having gravity drainage?

A. Right. I'm afraid we don't have that option here.

Q. Mr. Greer, you seemed to make a distinction between east flank and west flank, and I'm curious about why there's a distinction between at least east flank and west flank.

A. Well, the east flank of the San Juan Basin? Simply that's what Frank Chavez wanted us to concentrate on. So that's all that the committee looked at was this area that he asked us to study.

Q. Now, how many of the fractured Mancos pools that you've studied are on the west bank -- or the west flank?

A. The ones that I studied are on the east flank.

Q. And the Rio Puerco is on the east flank?

A. Yes, sir.

MR. STOVALL: Let me make sure that we're all talking the same thing. Why don't you define for us what you mean by the east flank. My thinking is the west flank would be somewhere out near 13 West. I'm not sure we're all talking

in the same terms.

THE WITNESS: That's my view too. We have some production on the west flank of the basin where the formation dips in from the west, and I think that you can probably use that. I don't know what Frank had in mind, but generally it's on the east flank of the basin where the formations are dipping to the west or southwest or northwest or on the east flank of the basin.

MR. STOVALL: Townships or ranges, say 1, 2, and maybe 3 West?

THE WITNESS: 3, 4.

MR. STOVALL: Depending on where you are on the curve?

THE WITNESS; Maybe 5 or 6 West, uh-huh.

MR. STOVALL: So when you're talking about east flank, that's what you mean?

THE WITNESS: Right. That's what the committee looked at.

Q. (BY MR. PADILLA) Mr. Greer, what was the timetable of the committee? When did you start your meetings?

A. I think it was in 88 and 89, as I recall. We met, as I recall, for about a year,

year-and-a-half maybe.

Q. And you developed these rules at that time?

A. Yes, sir.

Q. And then you gave them to Mr. Chavez, I take it, or what happened?

A. Right. We gave them to Mr. Chavez. My understanding is Mr. Chavez sent them down here to Santa Fe, and my understanding is they got buried down here.

Q. So nothing happened until this hearing in 1992, three years later, thereabouts?

A. Right.

Q. Did the committee make any specific recommendations with regard to this particular pool, the Rock Mesa Pool?

A. Oh, no. It made no specific recommendations to any pool. It was to cover the area for which there were no designated pools.

Q. You studied the so-called east flank regardless of what may have been there?

A. Right.

Q. Did you study other pools that were not necessarily Mancos?

A. Oh, no. We dealt strictly with the

Mancos.

Q. And that was on the entire east --

A. East flank.

Q. -- east flank. Let me ask you about the Gavilan Mancos Pool. You stated that in the northern portion of that you had effective spacing of something like 1,000 acres; is that what you said?

A. Yes, sir. The drill density, I believe, in north Gavilan in the Bear Canyon area the last time I looked at it is right about 1,000 acres a well.

Q. Are there differing -- let's see what you call it -- oil reserves for within, say, even the Gavilan Pool?

A. Well, there are areas in which wells have been drilled with low capacities and high capacities. Where there's wells that have low capacities, the frac treatment just didn't reach out and get into the fracture system, which is probably what happened. And whether there is a very significant difference of oil in place per acre, I think is not likely. It's just a question of the degree of fracturing around the well and how successful you are in hooking it up

with your system.

Just overall, the oil in place, the hydrocarbon pore space is just very uniform throughout.

Q. You mentioned one area, the Gavilan Mancos Pool around Bear Canyon. Were those -- why were those wells higher capacity than the other wells?

A. I'm not sure that they were higher capacity than the others.

Q. Did they produce more oil?

A. No, I think they did not.

Q. But weren't there some wells in the Gavilan Mancos that were much better producers than others?

A. Oh, yes. Certainly those that had higher capacity that got into the fracture system.

Q. In your opinion that's the only difference is whether you connected with the fracture system?

A. [Nodded.]

Q. Irrespective of whether you were, say, on the outer limits of the pool?

A. Well, when you get to the edge of the

pool, of course there is less possibility of getting into the good fracture system. Just how that all works, we don't know. But we have found that the reservoir covers the entire area. And we have used wells with small capacities, wells, for instance, that made, oh, 4- or 5,000 barrels, like the ones that were pointed out here in Rock Mesa. That's all they would produce.

And yet we've used those wells and using them right today as observation wells to determine the reservoir pressure. So they're in communication, just not very good communication.

Q. As I understand your figure of 125 barrels per acre, that's an average figure; correct?

A. For solution gas drive, yes.

Q. If you have a -- well, strike that.

How did you -- tell me again how you compiled this 125 barrel figure.

A. How did we arrive at it?

Q. How did you arrive at it?

A. First we tried to determine and I think did determine to a reasonable degree of accuracy the hydrocarbon pore space with interference tests, frac pulse tests, and in some instances

where the reservoir had reached a far enough stage of depletion and the information was available where we could use material balance to get back to the initial reservoir volumes, then from relative permeabilities and how relative permeability is affected by and the characteristics it has for fractured reservoirs, then from conventional analyses of solution gas drive, we can arrive at this 5 or 6 percent.

Then we can go back and take, for instance, West Lindrith, Mancos-Dakota, although the Dakota is mixed up in there, Conoco had done some testing as to how much production came from the Dakota, how much from the Mancos. And by material balance we put those things back, and we come up with the same answer.

And so we've made considerable amount of testing and study, and it all gets back to solution gas drive is in this general range. If you've got more than 125 to 150 barrels an acre, something else has probably happened to give you the higher recoveries.

Q. In the West Puerto Chiquito Pool and the Canada Hito Unit, did you unitize that first?

A. Yes, sir. As a matter of fact, I think

we had only one or two wells in the area when we asked the Commission to establish a three-township pool, which they did. I don't think the Commission had ever done that before, but they did it in this instance. And I might say that it's proved to be a very wise thing to do.

Q. But do you control the drilling through the unit, in other words --

A. Initially we had most of the acreage within the unit area. The unit forms about maybe half of the pool.

Q. But you were able through the unit agreement to control where you drilled in order to determine what kind of spacing you should have for the unit?

A. Well, of course, we came to the Commission after we ran the tests and developed information. And, of course, initially it was on 40-acre spacing. And then we asked the Commission for a 160-acre temporary order. And then we went beyond that for a 320-acre temporary order. And finally we got up to a 640-acre permanent order.

And so within the pool and within the

unit, the wells were spaced on 640 acres. And if a person had not joined the unit and wanted to drill a well on that spacing unit, then of course we had to come to the Commission and force-pool the party, or they could have come and force-pooled us.

Q. If they wanted to?

A. If they wanted to.

Q. But you initially developed information to decide what type of spacing?

A. That's when we initially began to find out what the fractured Mancos was like. And then when we studied other pools, we found similar things.

MR. PADILLA: I don't think I have anything further.

EXAMINER CATANACH: Anything, Mr. Roberts?

MR. ROBERTS: No, I have no questions.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Greer, who selected the parties that participated in the committee study?

A. Frank Chavez.

Q. Is it my understanding that the

committee was in total agreement on all these proposed rules at the conclusion of the study?

A. Oh, we each had our own opinions as to each of the items. And what came out was a consensus of what we would all agree to and support.

Q. Okay. With regards to Rule No. 2, the criteria for allowing the drilling of a second well, the production criteria, 50 barrels a day and 350 Mcf per day, is there any significance to those figures?

A. No. They were just arbitrary figures of what's a small enough volume of oil that you ought to be able to go drill another part of the tract. If, for instance, the well would make 2- or 300 barrels a day, the feeling was that it would adequately drain its spacing unit, and it would be improper to drill a second well.

Q. Say after a period of six months if a well was producing 51 barrels a day --

A. Well, that's of course a problem that you always face.

Q. And it was the consensus that they should not be allowed to drill another well?

A. That was the hard-fast line in drilling

the sand.

MR. STOVALL: How about 301 Mcf of cubic gas?

THE WITNESS: If I might add, that might be a place where somebody would ask for a hearing and talk about it. And of course, as you know, anyone can always do that.

Q. (BY EXAMINER CATANACH) The procedures that you guys outlined for approval of nonstandard proration units, was is it your intent that all of these be placed on the docket?

A. Yes. I guess that's what we had in mind. Perhaps we should have come up with, say, well, if it's within 10 or 15 acres, it could be approved administratively. We didn't go that far.

As I indicated earlier, at that time notice was not such a problem as it is now. And so we didn't address the things that you're concerned about now. So there's no problem that I see in modifying that. And one reason I hadn't paid much attention to it is I don't think it will apply here in this area.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Greer, if we wrote this rule, this specific rule, would it be reasonable to say, come up with, say, a range, smaller range, like say 600 to 700 acres or something like that?

A. And approve --

Q. Do it administratively? The biggest problem with this is once you put it on the docket, you can't then ten days before the docket say, well, it's administrative now. Once it's on the docket, it's on the docket?

A. Right.

Q. Any party has the opportunity to appear at that hearing and request --

A. Certainly I'd think for this situation, as I indicated earlier, I didn't think it had ever come up and been an issue. But I certainly don't see anything wrong with taking your suggestion of 600 to 700 and doing it administratively.

Q. Then if it's outside those limits, it just becomes a hearing case?

A. Yeah, outside that limit.

Q. Again we're only talking about situations where it's the survey that causes the problem and not going to a nonstandard partial

section or multiple section unit?

A. Right.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. Okay. With regards to Rule No. 3, I believe you stated that the committee thought it was better or more important to have the flexibility in locating the first well than it was to consider down-spacing problems?

A. Yes. That was discussed at length. Uh-huh.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. You heard my questions to Mr. Dunn and my thought that maybe you ought to push the well more towards the center of a quarter section to avoid the potential clustering of wells?

A. Right.

Q. What's your opinion with respect to my question?

A. If the blamed reservoir was uniform enough, then I would agree 100 percent with you. The problem is that we have these fracture trends. They're hard to determine, hard to find. Each company is going to have his own idea

about how to find them and where to locate his well.

And the committee just felt like that flexibility of trying to find the spot to put your well just overrode the other concern of trying to be close to the center of a quarter section.

Q. What about the idea of, I mean if that's how you feel, what would your opinion be putting a minimum distance between wells so that if you go to drill that infill well it's not 20 feet away from the well you've already got?

A. I think that's a reasonable provision. We did not discuss that at all. But it's certainly a reasonable provision.

Q. Could you recognize it as probably the first time you've thought about it; what kind of distance would you suggest would be kind of a reasonable approach to that?

A. Well, okay, again we're going to have to give the guy a flexibility I would think on the second well. If it's a dog, I don't believe he's going to try to crowd it. So it might not be, you know, that much of a problem. But I think we had -- what it has to be in a different

quarter section. I believe that was the only constraint we place on it.

Q. How about 660 feet? 660 feet between wells?

A. I think you can go farther than that. You should be able to go 1,000 feet, I would think, easily on a 640-acre tract.

Q. I picked that number -- assuming if you took my original premise of 330 and you put two 330s, then you'd say a minimum distance of 660, accomplish the same. That's how I came up with it. Still would give you some flexibility, but give you the same thing as 330 feet from the boundary?

A. I see no problem in having that. I really don't think that it's going to be an issue because if that first well is a poor well the man probably is going to --

Q. Try to get as far away from it as you can?

A. Right.

Q. Mr. Greer, looking further down on Rule 3, the directional, Mr. Dunn testified as to the reason for putting a directional survey requirement in. Am I correct in kind of

interpreting or assuming that when you're dealing with a fractured reservoir like this that in fact what's happening in the rock could cause you to deviate and get some significant deviation?

A. Well, either that or a deliberate letting the bit drift up-dip or whatever that the offending operator might get closer to the line than what you would ordinarily expect if you drilled a good vertical hole.

Q. We assume that's not going to happen.

A. So that was the purpose of that, was to make sure that the man wouldn't cheat.

Q. And why not just, say, get a survey in all cases and --

A. Well, the reason --

Q. -- have some greater requirement than just simply have a waiver, have some showing that there is an unlikelihood of having encroached on the 990-foot limit even if you're on your own offset?

A. Well, I personally would hesitate to recommend an expensive survey in every instance, you know, unless if it's necessary, for protection, well, okay. But I would not recommend it as a standard practice.

Q. Let's say the ability to waive it perhaps be contingent not only on who the offset is but some information from your drilling reports that would indicate that it was unlikely that there was substantial encroachment; would that be burdensome to put that additional requirement?

A. I think, you know, from an equity standpoint that sounds fine. From a practical standpoint of how do you gather that information and assess it and all that, it might not be too practical to try to do that.

Q. (BY EXAMINER CATANACH) How about, Mr. Greer, if you used the deviation survey and it indicated that it was possible that the well could be deviating more than 200 feet, could you then require a directional survey?

A. I think the OCD could require whatever it wants. And I don't know -- let's see.

Q. (BY MR. STOVALL) Deviational surveys are done as a matter of course, aren't they, in drilling?

A. Right.

Q. They're required?

A. Right.

Q. You could assume maximum deviation and then do a calculation and say it could be over 100 feet, so therefore we will not waive the requirement?

A. You could do that. Again, if the offset operator doesn't object, and as Steve indicated this morning, the offset operator might be the same as the one that drilled the well so he's not going to care if you crowded the line.

Q. Well, he doesn't care, but it may not be the most efficient way to get into the reservoir. He may be again draining the same reserve, but we can think about that.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. With regards to the automatic penalty once you encroach on the setback, I don't know that it would be a -- do you think it would be a problem within a unit? I mean, if an operator felt he had to drill an unorthodox location, wouldn't he be hurting himself and his interest owners in the unit if he had to take this penalty on the well?

A. Well, I guess there's -- again anything can happen that we haven't forecast. And if we

come up with situations like, for instance, we think that the fault that runs through there is going to cause fracturing on both sides, it may turn out that there's more throw to it than we think. It may be a ceiling fault rather than causing fractures both ways. It could be there's no communication across the fault.

Any of these things I think would be cause for operators to come back to the Commission and say, well, here's an exception; we ask for a special hearing to consider this problem. And I think the one you pose could be in that category.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. In other words, treat not getting a penalty as an exception to the rule rather than imposing a penalty for an exception to the rule; do you follow me?

A. I'm not sure I followed you.

Q. What you're suggesting is there's an automatic penalty if you're an unorthodox location?

A. Right.

Q. So if you come in for an unorthodox

location, then you would seek an exception to the automatic penalty?

A. Right.

Q. Got you. With respect to Rule 5, there's a provision here for keeping records confidential for 365 days, which is essentially about four times as long as the rules currently provide; is that correct?

A. Well, I don't know. We developed that in Frank's presence, and I assumed that -- in fact, it was my understanding that the Commission keeps requested confidential information confidential for a year, but I may be wrong.

Q. I believe the current rule is 90 days.

MR. KELLAHIN: It's 90 days.

THE WITNESS: Is it? Well, at that time we thought it was 365.

Q. (BY MR. STOVALL) I guess my question would be why would your exploratory efforts in this reservoir entitle you to greater protection than, say, somebody else's exploratory efforts somewhere else?

A. I don't know. Has it been 90 days for all these years?

Q. For at least as long as I've been in

here.

A. Okay. Then our committee considered this an exception.

Q. All right. Now, I guess you're at a handicap to answer the question because you didn't know it was an exception. I think the concept, presumably, is if you're going to go out and spend some money to explore a reservoir, you ought to be entitled to take advantage of that for a while.

My question would be: Why would this reservoir entitle you to take advantage of that any longer than any other exploratory efforts in a new prospect?

A. Okay. Well, I can answer that.

Q. Okay.

A. Typically it's going to take you longer here to know what's going on than in other reservoirs. I've seen instances in which it took us several months to get the frac oil lowered back before we even knew what the well would produce. So, yeah, there is a reason, a reason for it. I don't recall-- we didn't discuss that, but there is a reason.

Q. Do you know -- I'm assuming that

Merrion is proposing the unit, but apparently Mr. Dunn doesn't know what type of unit. Do you know if it's proposed to be a divided or undivided unit?

A. Yes, sir. We discussed both the divided unit and the undivided unit. And the feeling of the main owners in the unit area is that we would like to go the undivided route.

Q. Which would make the entire unit a participating area; is that correct?

A. Well, in a sense, then you have equalized interests throughout. But we've found and we were hopeful that we might get 100 percent of the people that owned acreage within the unit to go for that kind of a unit. We've since found at least one who doesn't want to do that represented by Mr. Padilla here today.

So the net of it is then that we will have a divided type unit, but the owners who would like to have an undivided unit will pool their interests so that as among themselves their interests will be undivided.

Q. I assume you're going to design the accounting system for this, Mr. Greer?

A. Well, we've done it many times in the

past.

MR. STOVALL: I don't think I've got any other questions.

EXAMINER CATANACH: I don't believe I have any questions either. Anything further of this witness?

MR. STOVALL: Before we go off the record or complete this case, Mr. Examiner, during the break one of the people who is in attendance, Mr. Goad, you are a party who owns lease interests somewhere in the area and you've received notice of this hearing; is that correct?

MR. GOAD: Yes. Uh-huh. I just staked four sites two weeks ago.

MR. STOVALL: Before you go any further, I'm going to suggest since you've made the effort to come up here and sit through the hearing that perhaps you enter an appearance which would have the effect of preserving any future rights which you might have to participate in whatever proceedings. If you'd like to do that, if you'd state your name for the court reporter and then --

MR. GOAD: All right.

MR. STOVALL: -- if you'd like to say anything else, it certainly would be appropriate.

MR. GOAD: My name is Charles M. Goad, G-o-a-d, and I'm operating under d/b/a as GOLA Oil, G-O-L-A, Company. And I received a registered notice of what was going to transact here, and I came up to see if I would be of interest in it or not.

MR. STOVALL: For that purpose and just for your information now, you are officially a party to this proceeding?

MR. GOAD: Yes.

MR. STOVALL: And we'll get -- any further activity which might take place in the course of this hearing, you will be a party, and if you would make sure that we get your address so we can enter that in the record.

MR. GOAD: All right.

MR. STOVALL: Having taken care of that, I have nothing further.

EXAMINER CATANACH: I believe we had a statement by Mr. McCord. Would you like to make a statement at this time?

MR. McCORD: Thank you, Mr. Examiner. I'm Kevin McCord. I'm representing Robert L.

Bayless from Farmington. Mr. Bayless along with Mr. Greer has interest in the Jordan Oil interests that's shown on your plat there.

We're in support of the Merrion application. We were also quite involved with the Gavilan problems when those arose and agree that this is a very good way to take care of those types of problems by starting with a larger area and possibly working down to smaller spacing if it's appropriate.

So we request that the Commission hear Merrion's case. And we feel even though it's pretty much a landmark way of doing things that it makes an awful lot of sense in this case. Thank you.

EXAMINER CATANACH: Would counsel like to give any closing statements at all, brief closing statements? It's up to you.

MR. ROBERTS: I would pass.

MR. KELLAHIN: Pass.

MR. PADILLA: The only thing I have to say is that, I guess, I'd have to echo what Mr. McCord said. It is a landmark and it's certainly a different procedure than what has been adopted or what has been followed by the Division in the

past as far as spacing cases are concerned.

We really don't see any information that would -- that is compelling as far as the spacing other than the committee work. And that's not to say that it's right or wrong. It's simply saying that most of the time spacing is on the basis of geologic or engineering data setting the spacing different than statewide rules.

MR. KELLAHIN: I need to respond to Mr. Padilla's comment.

EXAMINER CATANACH: I thought you might.

MR. KELLAHIN: Perhaps Mr. Padilla did not know that the Commission addressed this type of approach back in September of 1984. In a consolidated hearing, one of those was brought by McCue, the other brought by Mesa Grande. I've neglected the order number, but I'll supply it to you.

It was Case No. 8350 from McCue, and Mesa Grande's was 8286. And what we did in that case is respace the Dakota, I believe, to a 320-acre spacing or at least to 160 to conform to the spacing in the Gavilan Mancos at that time.

Not only was the spacing case presented

by McCue at that time, based only on economic considerations, there was evidence contrary to that in terms of the drainage in the Dakota.

So it was an even more unusual example of the Commission adopting an economic argument to justify wider spacing in the face of known production in the Dakota at that time.

So there is a precedent for this. And we think it certainly falls within the scope and requirements of the Oil & Gas Act to do exactly what these parties are proposing be accomplished here so that we do not have to repeat the mistakes that were generated in Gavilan Mancos.

Perhaps Mr. Carr and I are the only ones that still would like to see another Gavilan Mancos case. I have a daughter going to school, and I could use the income. But everyone else says once is enough and we never need to do that again and here's a chance not to do that problem over.

EXAMINER CATANACH: Thank you, Mr. Kellahin.

MR. STOVALL: Mr. Examiner, I'm going to take a rather unprecedented step here and offer one other thing which has not been

discussed and that is the fact that there is a new awareness of submitting those environmental issues.

And I think in taking an up-size approach and doing less wells may be, given that we are charged with certainly environmental responsibilities, I don't think these are outside the scope of those. And so that is a small factor which hasn't even been discussed today, but that may also be a discussion. I'm sure it is in the mind of the BLM.

So I just thought I'd throw another wrinkle into it. I know you love to have me always do something new and different when we come to hearings.

EXAMINER CATANACH: There being nothing further, Case 10478 will be taken under advisement, and this hearing is adjourned.

[And the proceedings were concluded at the approximate hour of 1:10 p.m.]

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10478 heard by me on May 28 1998.

David R. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL JUNE 11, 1992.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

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

CASE NO. 10,478

IN THE MATTER OF CASE NO. 10,478 BEING REOPENED PURSUANT TO THE PROVISIONS OF DIVISION ORDER NO. R-9701

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

July 7, 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, July 7, 1994, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

* * *

A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
State Land Office Building
Santa Fe, New Mexico 87504

* * *

WHEREUPON, the following proceedings were had at 1:02 p.m.:

EXAMINER CATANACH: At this time we'll call Case 10,478.

MR. CARROLL: In the matter of Case No, 10,478 being reopened pursuant to the provisions of Division Order No. R-9701, which order created the Rock Mesa-Mancos Oil Pool in Sandoval County and promulgated Temporary Special Rules and Regulations for said pool, including a provision for 640-acre spacing and proration units.

EXAMINER CATANACH: At this time we'll call for appearances in this case.

There being no appearances in this case, Case 10,478 will be taken under advisement at this time.

And this hearing is adjourned.

(Thereupon, these proceedings were concluded at 1:03 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10478, heard by me on July 7 1994.

David R. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL July 14, 1994.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994