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:	
APPLICATION OF KAISER-FRANCIS OIL COMPANY FOR POOL CREATION, PROMULGATION OF SPECIAL POOL RULES, FOR AN EXCEPTION TO THE GAS-OIL RATIO LIMITATION, ASSIGNMENT OF A SPECIAL DEPTH BRACKET ALLOWABLE AND TEMPORARY SUSPENSION OF DRILLING PERMITS WITHIN THE UNDESIGNATED PORTIONS OF THE PROPOSED POOL, EDDY COUNTY, NEW MEXICO	CASE NOS. 13,771
APPLICATION OF KAISER-FRANCIS OIL COMPANY TO AMEND ADMINISTRATIVE ORDER NSL-5133 TO ESTABLISH A NONSTANDARD SPACING AND PRORATION UNIT, AND FOR AN EXCEPTION TO RULE 104(B)(1), EDDY COUNTY, NEW MEXICO	13,594
APPLICATION OF HAYES LAND AND PRODUCTION, LP, TO APPROVE A NONSTANDARD 80-ACRE OIL SPACING AND PRORATION UNIT OR AN 80-ACRE PROJECT AREA, OR IN THE ALTERNATIVE TO RESCIND DIVISION ORDER NO. R-12,459, EDDY COUNTY, NEW MEXICO	and 13,778
	(Consolidated)

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REPORTER'S TRANSCRIPT OF PROCEEDINGS
EXAMINER HEARING

BEFORE: WILLIAM V. JONES, JR., Hearing Examiner
September 14th, 2006
Santa Fe, New Mexico

ORIGINAL

These matters came on for hearing before the New Mexico Oil Conservation Division, WILLIAM V. JONES, JR., Hearing Examiner, on Thursday, September 14th, 2006, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

September 14th, 2006
Examiner Hearing
Case Nos. 13,771, 13,594 and 13,778 (Consolidated)

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E X H I B I T S

Kaiser-Francis	Identified	Admitted
Exhibit 1	12	50
Exhibit 2	13	50
Exhibit 3	15	50
Exhibit 4	19	50
Exhibit 5	20	50
Exhibit 6	21	50
Exhibit 7	24	50
Exhibit 8	28	50
Exhibit 9	30	50
Exhibit 10	30	50
Exhibit 11	32	50
Exhibit 12	37	50
Exhibit 13	40	50
Exhibit 14	41	50
Exhibit 15	42	50
Exhibit 16	43	50
Exhibit 17 (Affidavit in Case 13,771)	49	50
Exhibit 18	45	50
Exhibit 1 (Affidavit in Case 13,594)	49	50

* * *

Hayes	Identified	Admitted
Exhibit 1	67	72
Exhibit 2	68	72
Exhibit 3	70	72

* * *

Thompson	Identified	Admitted
Exhibit 1	77	85
Exhibit 2	79	85

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A P P E A R A N C E S

FOR THE DIVISION:

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By: OCEAN MUNDS-DRY

* * *

ALSO PRESENT:

J. Cleo Thompson
117 West Yukon Road
P.O. Box 12577
Odessa, Texas 79768-2577

* * *

WHEREUPON, the following proceedings were had at 11:30 a.m.:

EXAMINER JONES: Let's go back on the record, and we'll call all three cases. Those cases will be consolidated for purposes of hearing.

The first case will be Case Number 13,771, Application of Kaiser-Francis Oil Company for pool creation, promulgation of special pool rules, for an exception to the gas-oil ratio limitation, assignment of a special depth bracket allowable and temporary suspension of drilling permits within the undesignated portions of the proposed pool, Eddy County, New Mexico.

Call for appearances.

MR. HALL: Mr. Examiner, Scott Hall, Miller Stratvert, PA, Santa Fe, appearing on behalf of Kaiser-Francis Oil Company, and I have one witness this morning.

EXAMINER JONES: Okay, any other appearances in that case?

MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe, and I am representing J. Cleo Thompson and James Cleo Thompson, Jr., L.P. -- that is one entity -- and also Hayes Land and Production, L.P. I have two witnesses, one from each company.

EXAMINER JONES: Okay, any other appearances?

MS. MUNDS-DRY: Mr. Hearing Examiner, Ocean

Munds-Dry of the law firm Holland and Hart, representing Marbob Energy Corporation. I have no witnesses.

EXAMINER JONES: Okay, no witnesses.

Okay, let's call the next case also. It's Case Number 13,594, which was from Order Number 12,459, reopened and re-advertised, the Application of Kaiser-Francis Oil Company to amend administrative Order NSL-5133 to establish a nonstandard spacing and proration unit, and for an exception to Rule 104(B)(1), Eddy County, New Mexico.

Call for appearances.

MR. HALL: Mr. Examiner, Scott Hall, Miller Stratvert, PA, on behalf of Kaiser-Francis Oil Company.

EXAMINER JONES: Other appearances?

MR. BRUCE: Mr. Examiner, I am representing the same two entities in that case.

EXAMINER JONES: Other appearances? Okay.

And we'll also at this time call Case 13,778, Application of Hayes Land and Production, LP, to approve a nonstandard 80-acre oil spacing and proration unit or an 80-acre project area, or in the alternative to rescind Division Order Number R-12,459, Eddy County, New Mexico.

Call for appearances.

MR. BRUCE: Mr. Examiner, that is my Application. Obviously I'm representing Hayes Land and Production, L.P., in that matter.

EXAMINER JONES: Other appearances?

MR. HALL: Mr. Examiner, Scott Hall appearing on behalf of Kaiser-Francis Oil Company in that case.

EXAMINER JONES: Any other appearances?

Okay, will all witnesses that intend to testify please stand to be sworn?

(Thereupon, the witnesses were sworn.)

MR. HALL: Mr. Examiner, if I may be allowed to provide you with some procedural background, this series of cases was first initiated by the Application heard on behalf of Kaiser-Francis last year in Case Number 13,594, which resulted in the issuance of Order 12,459 on December 1st, 2005. In that initial case Kaiser-Francis sought authorization for an unorthodox well location for a former Morrow-Strawn well that added the Delaware and Bone Spring pursuant to a previous administrative NSL order that required a hearing if any additional formations were added.

Unique situation involved with that well because of its original location for a Morrow test at 2661 from the south line and 660 feet from the west line. It resulted in a location only 19 feet off the quarter quarter line.

In that same proceeding Kaiser-Francis had requested approval for an 80-acre unit, and that was determined by the Hearing Examiner to be unnecessary at the time, so the order that issued in that case simply approved

the unorthodox well location for what is now Bone Spring completion.

After a certain amount of production data were obtained from the Kaiser-Francis Mesa Grande 11 Well Number 2, it was clear that spacing the well on 40 acres was inappropriate. It was obvious it was a very unique Bone Spring producer capable of draining much more than 40 acres.

And so that precipitated the filing of the Application in Case Number 13,771. It's the primary Application before you today. And by that Application we proposed the promulgation of special pool rules establishing for an oil well 320-acre units, increasing the GOR limitation to 3000 to 1, and then a commensurate increase in the depth bracket allowable for oil production.

We were and are proposing that with the creation of the new pool, that the vertical limits of the pool be designated as 6312 through 6412 feet, consisting primarily of the second Bone Spring limestone formation, based on the Mesa Grande well log.

It was proposed that the horizontal limits of the new pool be comprised of the west half of Section 11, 22 South, 26 East, and we also proposed 660-foot well location setbacks for completions in this particular pool. Because there was some concern about development in the Bone Spring

in the offsetting locations, we had asked for the temporary suspension of drilling permits for those offsets until the spacing and unit configurations were finally resolved.

In addition, ownership equities in the west half of Section 11 have become a factor and are determining in some part the relief that we're requesting from you today.

After the Application was filed, there have been a significant number of discussions with the other operators in the Bone Spring to the west, and as a result of those discussions and a result of further evaluation of well data, production data, we're changing the relief we're asking from the Division somewhat. We're now asking for 160-acre units on a standup basis. The first unit would be the west half of the west half of Section 11, which would be dedicated to the existing Mesaverde well. We're asking for a little bit higher GOR limitation. We're asking that the vertical limits of the pool be as previously described.

It's my belief, subject to correction from other witness testimony here today, that we may have agreement from the other operators in the Bone Spring to this approach. So obviously this will require us to file an amended application with you and re-notice and re-advertise the case for a subsequent time. But if the Division is agreeable, we'd like to go ahead and present testimony to you today and keep the record open until a new application

is filed, and then at such time that may be taken under advisement, order issued.

MR. BRUCE: And I have no objection to that.

EXAMINER JONES: Mr. Bruce?

MR. BRUCE: I have no objection to keeping it open and re-filing.

EXAMINER JONES: Okay, do you want to present background information also?

MR. BRUCE: You know, let's get rolling. I think the background information can be presented through my witnesses.

EXAMINER JONES: Okay. Ms. Munds-Dry?

MS. MUNDS-DRY: No objection.

MR. HALL: With that, Mr. Examiner, we'd call our first witness, Mr. Jim Wakefield.

JAMES T. WAKEFIELD,

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

DIRECT EXAMINATION

BY MR. HALL:

Q. Mr. Wakefield, if you would, please, tell us where you live and by whom you're employed?

A. I live in Tulsa, Oklahoma. I'm employed by K-F Energy, LLC, a wholly owned subsidiary of Kaiser-Francis Oil Company.

Q. And in what capacity are you employed by Kaiser-Francis?

A. I'm a petroleum engineer. My current position is vice president.

Q. And you're familiar with the well that's the subject of this Application and the lands that are the subject of the Application?

A. I am.

Q. You've previously testified before the Division and, in fact, this Examiner and had your credentials as a petroleum engineer established as a matter of record; is that correct?

A. That is correct.

MR. HALL: At this point, Mr. Jones, we would again offer Mr. Wakefield as a qualified expert petroleum engineer.

EXAMINER JONES: Mr. Wakefield is an expert petroleum engineer.

Q. (By Mr. Hall) Mr. Wakefield, turning to Exhibits 1 and 2, would you utilize those two exhibits to give the Hearing Examiner some historical background to this proceeding? Tell us how we got where we are today.

A. Exhibit 1 is a Form C-102 that was submitted with our Application for permit to drill the subject well, the Mesa 11 Grande Number 2. I'll probably call it the Mesa

Grande 2-11 from here out. It's the same well.

Mr. Kaiser, our president, wanted to drill the well in the center of the west half, west half, and we had very little information at that time that would indicate that anything other than the Strawn and the Morrow were productive in the west half of Section 11. And as we go through and show you some of the other exhibits, you'll see that prior to the drilling of this well there was no indication that anything in the Bone Springs might be commercially productive.

And so we applied for a nonstandard location, which was approved to drill the deeper test, with the stipulation that we would be able to come back if that well for some reason was dry in the deeper zones and if something came up, then it would be applied for specifically for that shallower zone. So the nonstandard location application initially was constrained to just the deeper zones. Okay?

We then -- and Exhibit 2 pretty much states what I just said in the letter from November 17th, 2004, from the New Mexico Energy, Minerals and Natural Resources Department to us, to Mr. Kellahin who at the time was of counsel. And that's what that states. It gives us the initial well within the west half of Section 11 at the nonstandard location we requested, with the stipulation

that a shallow test, if wanted or applied for, would be set for hearing and approved on the merits. Okay?

Subsequent to that we did have a hearing, because the Strawn zone that we went after, primarily which offset the Mesa Arriba 1-10 that J. Cleo Thompson had completed in the Strawn, our well was slightly downdip and wet, we could not produce commercial gas. We went to squeeze it off to go back down to the Morrow, where we knew we had commercial gas from the open hole logs and the drilling shows.

However, mechanically we managed to cement over 2000 foot of drill pipe in the hole and could no longer use that wellbore for the Morrow, or for that matter for the Strawn, which left us with either re-entering it for a sidetrack, which was as expensive as drilling a new well and in that case we were better off drilling a new well for the Morrow, or recompleting it to a really nice show we had, and we'll talk about that in a minute too, in the second Bone Springs.

At that point, which would be last November, we came back to you at this Commission and got approval for a nonstandard location to test the Bone Springs and Delaware on 40 acres. And since then it took a while to get the permit approved. We didn't get that accomplished until May of this year. And so we've been producing the second Bone Springs lime since May through today. Okay?

Q. All right, let's turn to Exhibit 3, Mr. Wakefield. We've explained we're deviating somewhat from the relief we requested in the Application. Would you explain what Exhibit Number 3 is?

A. Well, first we can talk about what we applied for, I guess.

We applied for 320-acre spacing. I had a number of conversations with the NMOCD about this issue, because what we envisioned completing in was an oil zone, and what we got produced very high rates of gas, as much as a million and a half a day at 1800, 1900 pounds flowing tubing pressure, with oil, initially as much as 250, now about -- oh, less than a hundred.

So we have a situation, we did some pressure-volume-temperature test data testing, we did some pressure testing, we've done a borehole spinner survey to see where the gas, the oil, is coming from. We've done several things to try to figure out exactly where the gas is coming from and where the oil is coming from. And when it all comes down to it, it looks like we're drilling into an oil zone and in the middle of the pay found a gas zone.

And so what we've got is a well that has an oil zone in it, or a completion that has an oil zone in it, and a gas zone that are communicated vertically, behind pipe. And so we've tried to find a way to accommodate royalty

owners, offset operators, prevent waste from drilling too many wells. And in doing all that, it didn't appear to be an easily solvable situation.

So we applied for the 320 since when we drilled the well everyone anticipated it being a gas well in the first place, and the NMOCD indicated they would not unfavorably look at that as an option, depending upon the facts.

And as we've gone along since we filed the Application we've got some more data, we've had conversations with royalty owners and with offset operators. It really, when you look at the data, is more conducive to filing an application for 160-acre spacing, being the west half of the west half, and it would also be the east half of the west half, there would be two 160-acre standup units.

If the well is not drilled at a nonstandard location, if it's not drilled almost exactly in the center of the west half of the west half, we'd probably do something else, although geologically that would be the right thing to do in our opinion, that it conform to more conventional spacing NMOCD uses. We would probably do northwest quarter, southwest quarter.

But given the fact it's right in the center of the west half, west half, that doesn't appear to be a

reasonable thing to do from the standard of the statement of drilling unnecessary wells and drainage areas.

And so what we've done, given all those facts, is, Exhibit 3 tries to set out some field rules. And we'll just go through them real quick.

The first one is, the vertical limits of the pool would be constrained to the second Bone Springs limestone zone in our well, located between the depths of 6312 feet and 6452 feet. I've got a cross-section in a minute, will show you what that looks like. Those are delineated by our open hole log in the Mesa Grande 2-11.

The second Bone Springs limestone zone, in item number 2), would be spaced on the basis of the standup 160-acre units we just described, west half of Section -- west half, west half -- west half, west half of Section 11, and east half, west half of Section 11.

The oil allowable for the pool would be based upon the established NMOCD depth bracket allowable for 160-acre units at this depth, which would be 382 barrels of oil per day.

The 2000-to-1 GOR limitation for oil wells would increase to 4000-to-1, which would then allow us to produce something like about 1400 MCF a day, which is more than adequate to produce this well.

The horizontal boundaries designed for the pool

would initially be limited to just the west half of Section 11.

These pool rules would also only be expanded to offset completions if such wells are completed in a stratigraphic equivalent zone described above in item 1) -- in other words, the second Bone Springs lime porosity interval -- and for wells that produce at rates in excess of 568 MCF a day, which is equivalent to 40-acre oil at a 4000-to-1 GOR. And you could substitute wording, GOR, 4000-to-1, instead of the 568 MCF a day. They're equivalent.

Again, trying to make it comparable throughout and allow a high volume oil -- a higher volume gas production from an oil well on 40 acres.

The pool rules also would provide for the drilling of an additional infill well in the remaining 80-acre tract in each 160-acre spacing unit if later production warrants that, by hearing. In other words, it could be that you'd find that you don't -- you know, it falls on its face, for instance, it just depletes overnight, and you don't have as big a reservoir as you first think. There may be a need, even with offset drilling, to show you you need to drill another well. That way you're not limited to just one well on 160 acres.

So the idea is that we would not constrain

anybody from drilling 40-acre oil well in the Bone Springs. Any 40-acre oil can be drilled.

If the offsetting well were to be drilled and have a gas rate in excess of 568 MCF a day -- and I've got some information later, I'll show you that that's a very high rate for a second Bone Springs, or any Bone Springs oil well in the State of New Mexico -- then you would not need more than the 40-acre spacing for the oil well, so you could go back to statewide, which would allow J. Cleo Thompson, Marbob, whoever, around us to go ahead and drill for the Bone Springs and develop it on 40 acres.

So we'd only constrain -- initially we'd constrain the field rules to just the west half of Section 11. And the only reason you'd expand it is if there was a hearing called to do so. And that's what Exhibit 3 is trying to achieve, give you the maximum latitude and protect us from having to drill unnecessary wells.

Q. Mr. Wakefield, is Exhibit 4 an attempt at a draft of proposed special pool rules for this pool? And by the way, this pool is designated the East Happy Valley-Bone Spring Pool currently; is that correct?

A. That's correct. Yeah, and this Exhibit 4 summarizes in the wording necessary to make those kind of suggestions we made in Exhibit 3 into a field rule nomenclature. Essentially it's the same thing.

Q. Let's turn now to Exhibit 5, your area production, if you would review that for the Hearing Examiner, please.

A. Exhibit 5 is a production plat showing the location of the well in question at this hearing, the Mesa Grande 2-11, and all the wells within a one-mile radius of that wellbore.

And as you can see from this plat -- with yellow being Morrow completions, kind of a brownish-orange color being Strawn completions, and orange being Atoka completions, and green being Wolfcamp -- the only completions on this plat that are shallower than the Wolfcamp is a test of the Bone Springs in the Delaware in the south half -- center south half of Section 22, the White Wing 22 Fed Com Number 1, and some Delaware tests over in Section 24 to the southeast.

And the White Wing 22 Fed Com Number 1 well that is shown as being a Bone Springs completion was producing from the third Bone Springs at the base, actually, of the third Bone Springs, just above the third Bone Springs lime, just above the third Bone Springs sand, around 7800 feet. So it's not a well that was having shows in our zone or produced from our zone. And the recompletion of that well was into the Delaware, the lower Brushy Canyon of the Delaware. This well never tested the zone we're talking

about, and neither have any of the wells on this plat.

There's a new well drilled by Mesa, by J. Cleo Thompson. It's located in the northwest of the -- it's actually the south -- Let's see what it says. It's in the southwest of the northeast, it's the Mesa Arriba 4, and it drilled to a TD of 6500 feet. That well has been cased, it has not been completed. And they're attempting to complete that well in the near future, to test the equivalent zone we're producing from.

And I have a log for that well to show you in comparison to ours here in a few minutes, another exhibit. And I'll show you that that log would indicate that well has marginal pay in it.

Other than that, none of the wells on here recorded any kind of appreciable shows in this zone or had any flows while drilling in this zone. So it's a truly new reservoir for the area.

Q. Let's turn to Exhibit 6, your ownership exhibit. Please explain that to the Hearing Examiner.

Exhibit Number 6 shows the -- section plat for Section 11. I don't have any well spots on here, but the well spot for the well in question, the Mesa Grande 2-11, would sit in the in the center of the west half, west half. If you need me to, I can mark that on your plat, but it --

EXAMINER JONES: It's just the center of --

THE WITNESS: Right. And you'll see that the west half of the northwest is an 80-acre tract or lease, initially to a person named Rice, and the west half of the southwest was an 80-acre tract initially leased to people called the Spindlers.

So there's two 80-acre tracts that make up the west half of the west half. The Rice tract is kind of a reddish-brown, and the Spindler tract is kind of a grayish blue.

When we asked for the nonstandard location to test the Bone Springs one of the questions was, Are the interests the same? And I answered, Yes, they are. However, part of that question had to do with the royalty ownership, not just the working interest. The working interest is the same throughout Section -- the west half of the section. The royalty interests are not. I misspoke in that hearing because I had misunderstood what my land department told me. They told me the correct thing to say, but I didn't give the correct answer. There are differences in the royalty ownership in these different tracts.

And so the nonstandard location that was spaced on 40 acres, part of the reason they did that, they -- in the write-up anyway, was that they thought by my testimony that there'd be no difference for 40-acre, 80-acre or 160-

acre tracts. So that is my error, and it was a misunderstanding on my part. I apologize to the Commission for that.

So part of what you're also going to be hearing today is from Mr. Bill Bennett. Mr. Bill Bennett, along with his brother Brad, own undivided interest in the west half of the northwest quarter under the -- originally the Rice lease. Okay.

And so by combining the west half of the southwest and the west half of the northwest, which is leases 1 and 2, is the way I've got it numbered there, you then share equally between those two tracts the production from our well.

And to deviate for just a second, we started production in May in this well. We have not disbursed any revenues, no one's been paid anything. So however this hearing turns out will then set the spacing unit and determine the way the royalty will be paid for 100 percent of the production. So we've not -- distribute anybody who'll be -- money taken away from or money owed to. Okay?

That's all this plat does, is try to give you the information as to why it's important that we do a nonstandard 160-acre tract, because the interests will be different, versus a standup 160-acre tract.

Q. (By Mr. Hall) Let's turn to Exhibit 7, your

isopach. Review that with the Hearing Examiner.

A. Exhibit 7 is a -- my attempt at an isopach map. I don't pretend to be a licensed geologist, I'm a petroleum engineer, but for -- since 1972 when I graduated, I've pretty much done my own geology by necessity, for lack of support, which makes me probably wrong in most of what I do. But in any event, this is my attempt at this.

And if you'll notice -- we'll just walk through it real quickly -- the wells that are important are the ones closes to the well. And the two wells -- And I've got a cross-section; in a minute we'll go through and we'll talk about how we came to these numbers.

But what we've got is, each well is shown and then below the name of the well there is a -- two numbers and then usually one below the line. I guess there's none below the line. There's two numbers above the line. Two numbers above the line. One is for net pay greater than 6 percent density porosity -- not crossplot but density porosity -- and the gross pay interval across the zone of interest in the second Bone Springs lime. Again, that's my determination, not someone else's.

And doing that, you quickly see that the Mesa Grande 2-11 well has 30 feet of greater than 6-percent porosity, 137 gross. The 30 feet of pay, net, is by far the most of any well out here. The Mesa Grande 1-11 has

nine feet, to the east. The J. Cleo Thompson Mesa Arriba 1-10 is not a very good log, it's very difficult to read; I have four feet. The well they just completed, the Mesa Arriba 4-10, I have five feet.

North of that is the Chi Operating WC 3-3 well in the southeast southeast of Section 3, has nine feet.

And to the south, the J. Cleo Thompson Mesa Federal 1-15 has 11 feet in the northeast northeast of 15.

And I've been told by J. Cleo Thompson this morning that the Bennett 1-10 in the northeast of the northwest also has some good pay in it, which I either didn't have the log or didn't look at it, one of the two. I can't remember at the moment whether I had that or not. It supposedly has pay in it, and I think they have an exhibit that's -- I wanted to talk about that.

My interpretation, because of the thickness of our well being south of the Mesa Arriba 1-10 and the Mesa Grande 1-11, and then having some thickness in the WC 3-3 and the Mesa Federal 1-15 north and south of our location, is that most of the porosity is going to run north-south. And that's my interpretation. I think that you're going to hear from J. Cleo Thompson. They're going to have a slightly different interpretation of that, but that's my interpretation, and I think it's reasonable.

I like to think that these things typically run

along strike of the dip, and dip here is east-west and tend to be north south and that.

Now having said that, the Strawn does run northwest-southeast to some extent. It's mostly north-south but it runs a little bit northwest-southeast, and it wouldn't be unusual for this to run a little bit west of north.

But for the main porosity interval it looks like that main porosity, at least right here, is that way.

And it could be -- an alternative geologic opinion that I would also probably champion is that you have a series of these. You don't just have one -- one development, you may have several of these around. Another one could be the Bennett 1-15 and the Mesa Arriba 4-10, and they could be a totally separate reservoir. They don't have to be the same.

These things typically don't -- or don't have to have a lot of aerial extent. They can, but they may not. There's a lot of single and two-well-type fields like this running around in southeast New Mexico. And there's -- fields sitting around too. But as you can see in this general area, that hasn't been the case.

So at least at this point, until something else happens, it looks to me like a -- mostly a one-well reservoir, maybe a two-well reservoir.

And this particular geologic interpretation would indicate that most of the pay -- and I'd represent that it's -- based on this contouring, that 75 percent of the pay or roughly 70 percent of the pay on this map lies within the west half, west half of Section 11, and that the permeability, which I'll talk about in a minute, is such that I think this well can drain most of that connected pay.

Q. Mr. Wakefield, are you satisfied that a 6-percent cutoff is a meaningful porosity cutoff to use here?

A. Yes, I do. A couple of reasons we'll talk about in a minute with the cross-section some more, but typically -- lack of any better information, I always use a 4-percent density porosity cutoff in limestones. And then after it's tested you can then begin to make the determinations of, you know, if it's better -- you know considerable amount of better pay, is the better pay what is contributing the production?

In this case I'm pretty sure that when we look at this log you'll agree that the majority of the pay that's contributing production is that pay in excess of 4 percent. And I think 6 percent will, based on the log information, be a porosity cutoff that should be the kind of porosity cutoff you would use in this reservoir.

Q. Let's first look at your mud log, Exhibit 8.

What does this tell us about what you encountered during drilling?

A. Okay, Exhibit 8 is a mud log of -- starts at about the top of the Bone Springs and -- top of the second Bone Springs, actually, 6230, top of the second Bone Springs, actually starts 6230. And we drill some tight second Bone Springs limestone till we get down to 6312, and at that point we begin to see some porosity. And at 6330, the mud logger started showing porosity in the samples and started having shows.

And if you will notice that we were running -- if you look at 6300, right below there on the right-hand side of the -- where the formation is designated, there's a track that says -- that has gradation units, and the units are 0, 30, 60, 90. So we only had -- prior to drilling into the porosity zone we're going to talk about in the second Bone Springs lime, we only had about 50 units or less of gas show. So we had virtually no gas in the mud when we drilled into this.

And then if you'll notice, was, we drop below 6312, we start seeing gas increases. And we get to 6330, suddenly the gas goes offchart where it's 620 units. And then below there at 6350 we're 715 units, and then we start getting up to about 2000 units. And at 6380 we have a blowout, got about a 50-foot flare at that point. The well

kicked on us.

And we also had a -- you know, during this drilling phase we also had some -- maybe two to three inches of frothy oil in the pit. So we knew we had a zone that's going to produce something. How much, we don't know.

We got it back under control, 6400, and we're coming back down. And the time we get to 6450, 52 feet at the bottom of the interval, we're back down to our list in the 100, slightly 100-plus units of show. So we increased the mud weight, killed the show, got it under control. And then we go ahead and drill at less than 100 unit shows below that.

So this is on a strictly segmented -- it's defined between certain limits, it's the interval we perforated in our testing. And it looks like, to me at least, that we were drilling an oil zone, and then we drilled into a gas zone. So we may have a separated reservoir with oil above it and gas below.

Now I'll also show you in a few minutes why I think that it's completely vertically communicated.

And we perforated this -- we'll talk about that in a second -- in a way that makes it virtually impossible to isolate these reservoirs, even if we -- it wasn't vertically communicated.

Q. Let's turn to Exhibit 9, your well diagram.

A. Exhibit 9 shows the story history of this well. We were trying to -- we drilled it through the Morrow, cased it, we were trying to make a Strawn completion in the 9956 down to 10,306, so there's three distinct intervals within the Strawn we were trying to test.

And in doing all out that, we started out by squeezing the 10,302 to -306 interval. We were then squeezing the 10,006 to 10,128. The cement broke around, and we wound up with the top of cement and the top of fish at 7763, after it communicated around behind us. And we wound up putting a cast iron bridge plug at 7700 feet to permanently abandon everything below that point.

We then perforated the interval 6321 to 6426, which is the interval that had the shows on Exhibit Number 8. We'll see in a minute on the cross-section, this is also the interval that had the porosity development.

We're now -- packer at 6211 feet. A viable wellbore, but only for this zone.

Q. Let's look at the cross-section now, Exhibit 10.

A. Sorry, this is a large cross-section, but there's a lot to talk about on it and if we made it small you wouldn't be able to see anything.

If you'll also put out your plat that we gave you, which is Exhibit Number 5, we'll talk about where

these wells are located at.

Starting on the left, it's the WC Number 3, which is in the southeast southeast of 3. That is a Morrow and Strawn completion, of which most of the gas is the Strawn, and there may actually be a plug between the two. The sundry notices aren't very clear about that, but I'm pretty sure that production is predominantly from the Strawn.

The Mesa Arriba 1-10 is the well in the southeast of the northeast of Section 10 that's currently producing from the Strawn. And you'll notice on your plat, while we're talking about it, that there was an application for a permit to drill submitted by J. Cleo Thompson for a well called the Mesa Arriba 3. I understand that because of the presence of the Mesa Arriba 1-10 wellbore and its potential availability very soon due to the demise of the production in the Strawn, that that well will be recompleted and the J. Cleo Thompson Mesa Arriba 3-10 will be dismissed, will be pulled back and not be an application. There's only going to be one test of that 40-acre tract, of the Bone Springs.

The next well on the cross-section is the well in question, the Mesa Grande 2-11, west half of Section 11.

The next well is the Mesa Grande 1-11 wellbore in the southeast of the northwest, producing from the Morrow.

And then the final well on the far right-hand of

the cross-section is the Mesa Federal 1-15 in the northeast northeast of Section 15, and that well produces from the Morrow and, I understand, the Atoka, the Strawn not being productive.

At the time I did this cross-section, that was all the wells that were either available to me or that I had information on. Since then -- Let's pull out Exhibit Number 11, which is the next exhibit. It's a log from -- a copy of the log from the J. Cleo Thompson Mesa Arriba 4-10, and I think that you can move it around enough to -- and compare it to the other logs that it will be useful for you to compare that.

Talking about the Mesa Grande 2-11 first, I initially drew on this cross-section 4-percent porosity cutoff for the determination of net pay. Subsequently, due to the production logs that we have and the way the well has produced have determined that the 4-percent pay probably isn't contributing much of anything, and it probably is the 6-percent or better high-graded pay that is producing.

And if you look at the porosity log you'll notice that -- it's quite clear that the porosity intervals on the Mesa Grande 2-11 porosity log either come up to 6 percent, the majority of them, or exceed that. In fact, we have some porosity as much as 14 percent in the area that blew

out on us, some of which did not have any samples back to surface on that mud log that you were looking at a moment ago.

The zone above that high porosity interval is predominantly, I think, oil. It was what we were drilling, we were getting oil shows and porosity in it. The zones below there, below that high porosity section where it blew out, are noticeably tighter and have very little porosity.

So I think you have a -- and even if you look at the gamma ray, which is colored green on this map, you'll notice that above the blowout interval there's what looks like to be two fairly clean-looking lime intervals and a shale break right at 6370. And then you go into 6372 down to -- through 6402, and they're a little higher porosity; it probably is the gas zone.

And then if you'll look, then, next to that log, is -- to the porosity log on the left-hand side, is the lateral log that we ran. If you'll notice that -- although they're not exactly on depth, which I have to apologize for; it's hard to get these things exactly on depth and they do -- they stretch.

But if you look through there and look, every time you have a low reading in the lateral log and spread between the deep and the medium curves -- And I can show you. The deep curve is the long dashed line, the medium

curve is the short dashed line, and the lateral log is the solid line.

And when you have the separation like you see -- Let's look at 6330 to -40. That separation is a good indication of permeability. And the interval down here where we had our gas blowout, again, you have very large separation between the curves. And up throughout this section of the zone you have pretty nice-looking indication of permeability, which predominantly coincides with the better-looking porosity on the -- 6-percent or better on the porosity log. Which leads me to think that the net pay here is probably about 30 feet, due to the higher porosity, to go up to those sections.

And then if you want to look at the J.C. Mesa Rio Arriba 4-10 -- the reason I say "if", versus some of the other logs in the cross-section, is that it's a new log. It's a modern log with -- ran without any real problems, and it wasn't -- A lot of these other logs are deep logs and they're older and they had a lot of time for mud invasion and maybe didn't give you a clear picture of what was going on. But this well was TD'd at 6500, so the time frame of mud being on the formation is pretty low. These are pretty good logs.

And you can see there's a couple of zones on the dual lateral log where you again have some indications of

permeability, specifically at 6300 feet. But anyway I have it colored yellow there for you.

And you'll notice it's also -- ties to a porosity zone on the porosity log at 6300 feet, on that same cross-section, that same Exhibit 11 you're looking at. That's the log you're looking at in your hand. Right there, yeah. The right-hand log is the porosity log, the left-hand log is the lateral log.

EXAMINER JONES: Okay.

THE WITNESS: And 6300 -- you notice that there's porosity and separation on the lateral log. Now there isn't a lot of medium and deep, but there is quite a bit of microlog. I'd like to see some more medium and deep. My inference of their log is that they're out of zone, that probably will produce but not be as good as ours. It has less pay, doesn't have as much porosity. The maximum porosity is 9 percent, and they have two or three foot of it. Total of about -- I put on my isopach a minute ago, Exhibit Number 7, I had them with five feet greater than 6 percent.

And they had -- they were running, just like our well on that mud log that we just talked about a minute ago, above the pay zone they had less -- 100 or less mud readings, and during the zone they get up to 200, maybe 300, and then below it it went back down. So they have

some gas show, have some oil in the samples, so they've got a zone that should produce. But probably be a -- in my opinion, probably be an oil well, not a gas well.

And similarly, you know, you can see on the Mesa Arriba 1-10 porosity and lateral log, it's very difficult to read the log, and it's very -- you know, it's pretty difficult to see if there's anything there that's really, truly productive. And by high-grading a little bit I give them five feet of pay.

Same thing with WC 3 Number 3 well. That log looks like it's just pretty tight all the way up and down it. There are a few little zones that has as much as 6 percent, but again not a log that would encourage you to go drill a well, or maybe even test it. I don't have a mud log on it, so I don't know what shows it had.

The Mesa Grande 1-11, we have a mud log on it, and it didn't have -- not have much show. And if you'll look at the lateral log and the porosity log on it, there's not much pay in it. It's the well to the right on your cross-section, to the Mesa Grande 1, 2-11.

And then if you look to the log even further to the right, the Mesa Federal 1-15 which is in the northeast northeast of 15, very little pay zone. I mean, I gave it -- it's got just little pieces that come up to 6 percent of porosity development. It might produce, but it's not going

to be much of a well.

So in looking at this, you know, at least it looks to me that you've got a zone that's pretty much isolated. It's a one-well-type field at the moment unless, you know, additional drilling proves otherwise.

And again, the one well I don't have information on, which J. Cleo Thompson may testify to in a minute, is the Bennett 1-15. And if it does, it doesn't mean it's -- has pay, it doesn't mean it's in the same reservoir, it may be in a separate reservoir. Until we have more information we won't know that.

Q. (By Mr. Hall) Let's turn to your production data now. Start with Exhibit 12. What does the production data tell us about producing characteristics of this well?

A. Okay, Exhibit Number 12 has actually got two pieces of paper. The first one is a graphic representation of the production history from the Mesa 11 Grande Number 2 well. And attached to it is the information -- production information that is plotted on the first page. So if you want a particular value for a particular day or you wanted to, you know, more accurately see what is going on, you can look at the appropriate column.

And what we've plotted on here to show how this well has behaved is, the top graph -- this is a logarithmic plot versus time, and I just initiated the first day to be

the day one and went up to 103 days on -- 108 days, I'm sorry, on the production history as shown here. And day one was actually May 19th. There's been some shut-in times, as you can see on the graph.

The initial gas-oil ratio started out around 2000-to-1 to 3000-to-1 level, and we were producing about two hundred and -- well, 120 up to 250 barrels of oil a day that first week. Gas rate was around 300 up to 700. We could see in that first week that we were tending up to at least a 4000 producing GOR before anything.

So we stopped and were shut in a couple days by El Paso, turned it back on, and we were trying to keep -- get it to stabilize at a low gas rate, and we just weren't successful. We were producing it at 13- to 14-, 15/64 choke in the time period the 27th of May through the 15th of May [*sic*], which would be days through 28.

In that time frame, on a fairly consistent choke setting, the gas rate went from 400 MCF a day to 1400 and the oil rate varied from 125 up to 180. At the end of that time frame it was about 150. So we could see we're not gaining on this at all.

We shut it in to do an extended bottomhole pressure, to learn some more information, take some PVT analysis, thinking that we needed to come in here to you to show you that we had to do something different than 40-acre

oil spacing.

And then we turned it back on, and again the gas rate quickly -- from let's say day 37 through day 60, that time frame, the production started out around -- when we first came back on we started at a low rate, quickly built to about 700. At the end of that time we were coming back a little bit again to about 700. But if you drop down just to the days 64 through about 70 you can see it's at a pretty constant 1000 to 1100 MCF a day, and the oil rate during that time frame is 150, dropping down to maybe 100 at different times. Oil rate is not real consistent.

And of course our gas-oil ratio during this time is increasing. We're now up around 7000 gas-oil ratio, which is the top curve, the kind of purple curve at the top line.

And once we drop below there, during the month of August, which is .75 through 105, we're trying to flow it consistently at a 14/64, the whole time. And the gas rate starts out just under 1000 a day, and most of that month we're right at 1000 to 1100. At the end of the month we were about 1300 MCF a day.

And our oil rate during that time is at or below 100 the whole time. So our gas -- our GOR now is up around 14,000, 15,000.

And in September, you know, just continue the

same thing, 1300 MCF a day in the early part of September, and oil is dropping down below 100. We have some -- a couple days there less than 70. And again our GOR is anything from 13,000 to 20,000.

We shut it in to get another bottomhole pressure prior to having this hearing, just to give us a second check to see if maybe we're flattening out on pressure or whatever. We turned it back on. We also did an AOF test which we'll talk about in a minute, but the trend is clearly pressure is decreasing in the reservoir, gas rate is going up, oil rate is going down, and the combination of the oil zone and the gas zone shows clearly that the gas zone is producing most of the production.

It's really not an oil well, a conventional oil Bone Springs oil well.

Q. Let's turn to Exhibit 13 now, your P/Z plot.

A. Exhibit 13 also has two pages. First one is a P/Z plot versus cum gas. And we have the three pressure points: one when we first perforated the formation, before production; a second one in June of this month [*sic*]; and the third one September 1.

And those really do match up fairly nicely on there, which is unusual for early pressure data. It implies that -- to me, that the gas cap is probably in the 400- to 500-million-cubic-foot range, based on this early

information. I don't think it says much about the oil zone, because the oil zone really doesn't behave on a pressure versus P/Z basis.

Now there's obviously some gas being produced from the oil zone. How much is difficult to tell, but I went through and did some analysis with the 2000-to-1 GOR, and at least 85 percent of the gas is coming from the gas zone.

Q. Let's turn to Exhibit 14, your production log, if you would explain that.

A. Okay, Exhibit 14 was a production log we ran at the end of June, trying to better define if we could do something to shut off the gas. Given our perforations, which are shown -- on the left-hand side you have a track for depth and then you have a Z track, and the Z track is where the perforations are at. And you can see them as blocky red little intervals. There's not much separation there between any of those perforate intervals.

And when we ran the production log we found that all of the production is coming out of the top part of the pay, 100 percent of the production. It implies that we have vertical communication between all the perfs.

If you go back to when we completed the well, we did a small acid job and dropped twice the number of balls we needed to ball off. We could not achieve a ball-off.

Vertical communication prevents a ball-off, because as soon as you get one ball to seat one somewhere else pops off. You just can't get a ball-off effect, so you can't get isolation.

So we have a zone that we've determined we can't get an isolation between the gas and the oil. So if we were to even try to go back and -- you know, I guess we could squeeze everything off, which seems like a waste of money, and then try to perforate where we think the oil is at and produce it, then go back for the gas. That seems like a futile effort and one that would probably result in reduced recoveries.

Q. Let's look at the AOF data on your C-122, which is your Exhibit 15. What does this tell us about the strength of your gas zone?

A. We had never tried to do just a conventional AOF test on the well. So we shut it in in the first part of this month. After a 72-hour shut-in and the bottomhole pressure we took, I asked them to just do a conventional P/Z -- conventional AOF test, excuse me.

And in doing so, you don't get a conventional, nice straight line, one-dot-after-the-other plot. If you look at page 2 of your AOF test, you get three fairly flat points, and the fourth one starts to move up into the range of what you'd expect to see. And because we -- in 72

hours, the bottomhole pressure that we took showed that the well was completely evacuated of any oil.

This is a four-hour test. We didn't recover any oil, one barrel of oil is all we recovered. So don't look at this and say, Well, it's not producing any oil. It did produce oil after that, but during this four hour period it did not. I just want to point that out to you, don't let that cloud your judgment.

But what does show, that if you were to take that gas rate and extrapolate it to atmospheric conditions, we could produce 5.5 million a day. So it's a very high-perm gas zone that we're producing gas from.

Q. What is Exhibit 16?

A. As I said earlier, Exhibit 16 -- First of all, Exhibit 16 shows just some parameters and their values that relate to the second Bone Springs lime zone we're producing. The initial gas-oil ratio, the formation volume factor, are from the PVT analysis that we did, those being the initial conditions.

The API oil gravity, we've tested it consistently throughout all this and it remains around 43 degrees. So the oil zone that we -- oil that we -- producing, is coming from an oil zone, it is not coming from condensation from the gas zone.

The gas gravity is .7, which does mean that it

has quite a bit of liquids with it. And like we've estimated, 22 to 30, somewhere around 26, 27 is an average gallons per thousand. So it's a fairly rich gas, as you would be in somewhat association with an oil column. And in fact, maybe the gas from the oil column is what's contributing the liquids. We really can't get a separate determination.

The initial formation pressure shown here, 2931 from the PVT analysis, is the bubble-point pressure for the oil. In other words, it existed at initial completion as an oil zone and a gas cap, because you don't have -- you can't get all the gas we're producing into the oil. You'd have to have a bubble-point pressure of 7800, 8000 pounds to get all the gas into the oil. So you clearly have an oil zone and a gas zone.

And then using these parameters, the oil zone, stock tank barrels per acre-feet, is 257 barrels per acre-foot, and the gas cap, gas in place, is 541 MCF per acre-foot.

Now how you share those two back and forth becomes a different question, and we don't have enough information at this point to tell you how big the gas zone is versus the oil zone. We feel certain it's contained -- as we talked about in our exhibit, our geologic exhibit, the isopach map, we think defines that areal extent.

Q. Exhibit 7?

A. Exhibit 7. I planimetered that plat and if it was 100 percent oil, which of course it's not, that plat has 4323 acre-feet in it, which would be 1.1 million barrels in place.

If you look at just the west half, west half, which is 70 percent of the acre-foot of -- 3051 acre-feet, which is 70 percent of the total, that is 781,000 stock tank barrels.

If you look at a 12-1/2-percent recovery factor as being somewhat average for the Bone Springs -- it usually ranges between as low as 7, and I've seen as high as 18, but 10 to 15 is the typical range -- you have 97,000 barrels that you'd produce if that was 100-percent oil, which is very unlikely.

So I went through and -- I guess if I -- Did you put in that other one?

Q. Mr. Wakefield, I've handed you what I've marked as Exhibit 18. Would you explain that, please?

A. Exhibit 18 takes the production data that was detailed in Exhibit 12, and I tried to make two, three months' production out of that information, not taking May as May as 18, but take three 30-day segments, if you would. So it represents the first 90 days of production without the shut-in time. So just -- if you try to make it match

the numbers it's not going to match directly.

But if you do that, then you get -- for the oil it begins at around 4200 barrels, next month is 2800, and the next month is 2600. You'll see that there's three points that line up, and it's shown as oil production. They've got little X's. Sorry, it may be difficult to see on your graph. That decline the last two months is 74 percent per year.

And an evaluation of a number of Bone Spring wells show that no matter where you start, that if you -- a decent Bone Springs well, I'm not talking about, you know, wells that make 2000 barrels but decent Bone Spring wells, 30,000, 50,000-plus -- around 400 barrels a month is kind of a breakover point where the porosity in the oil zone tends to be dominated by the lower-permeability sections rather than the high-permeability sections. And that typically declines at about 20 percent.

And then at about three barrels a day you get down to that really bad-looking permeability in the Bone Springs, and that's usually about 6 to 8 percent. And if you take that curve and you apply it to this well, that would be 60- -- roughly 61,000 barrels of oil. I mean, that is an idealized to the great extent of putting a normalized curve. In actuality, there's no guarantee it won't take 74-percent decline to the end point and never

flatten. So we've got a range between 60,000 and, say, 61,000 as recovery, if you would.

And then if you take -- the same for the gas, you start out at roughly 28,000, then we had a lot of reduced flow rate as we tried to play with the well, dropped it down to 24,000, and then the last 30 days was 30,000 percent.

And then if you -- you believe that most of the gas is coming from P/Z of 450,000, roughly, in MCF, coming from the gas zone, and you say, Well, that's all I'm ever going to produce. Then you get a 62-percent decline, which is the first decline you see on the gas production side.

And again, looking at the Bone Springs wells, eventually the oil-column gas will dominate over the gas-column. It's going to last longer. And about a 4 -- about a 5000 MCF per month appears to be a rate at which a lot of Bone Springs wells tend to break over from a steep initial decline to a much flatter decline of about 12 percent. And so if you do that, then all the gas from both the oil column and the gas column, if that were true, would be 800 million cubic feet of gas. So you have a pretty nice well.

Potentially it's maybe only 20,000 oil and 450 million cubic foot. Maybe you don't recovery as much out of the oil column. Maybe all you get is the gas column, or very little help from it. So you've got a pretty wide

range of potential end points for producing this well.

So you could have a reservoir size that's quite small. Or it could be as much as the entire west half of the west half of Section 11. You're not going to know for a while.

So you take this information and all the information we gave you. It's obvious to us, due to our nonstandard location, that the 40-acre oil tract that we initially obtained approval from NMOCD for back in November or December of '05 is not applicable, it should be changed.

So we're here today to ask for a different spacing. And initially we asked for 320 because we were trying to find a meeting ground to shoot at. You know, if we included all the pay in the west half, that would be reasonable. Mr. Bennett feels that's unreasonable to him as a royalty owner in the west half of the northwest quarter, and there's no 320-acre Bone Springs spacing, which puts you in a bind. So why do that?

Based on geology, we can at least reasonably show that most of the gas is contained in the west half, west half of Section 11. So it make sense on a gas well spacing of 160 acres, which is typically what gas wells below the -- or above the base of the Bone Springs, or above the top of the Wolfcamp, are spaced on. So you could preserve the 160-acre spacing the Commission usually gives shallow gas

wells by giving it the west half, west half of Section 11 as a spacing unit, and we -- because we don't want to interfere with anyone's development of the Bone Springs as oil wells. If they are oil wells, then we think this is a strange creature, different and unique from everything else. We don't want to impose that spacing on anyone unnecessarily.

So it is our proposal that if the Commission set rules, that the 160-acre standup in the west half, west half, would be in the east half, west half, that that spacing would be restricted to the west half of Section 11.

And the only reason you would extend it beyond that would be by hearing, for someone to prove that what they had also was like that, and that they would then also want gas spacing on that same basis. Otherwise, they'd go down the road and develop an oil well on 40-acre statewide basis.

Q. Mr. Wakefield, were Exhibits 1 through 16 and Exhibit 18 prepared by you or at your direction?

A. Yes.

MR. HALL: And Mr. Examiner, Exhibit 17 is our notice affidavit for this case.

Let me also give you, for the record, our notice affidavit for Case 13,594. This is the reopened case for the unorthodox well location from last year. We've

provided additional notification to Mr. Bennett of Hayes Production and Land. We don't believe that was necessary, but we believe we had adequate notice to begin with. We identified all the operators pursuant to the Rules, he interposed an objection, we reopened only for purposes of providing him with notification.

We may find ourselves in a position now that we can agree that Case 13,594 can be dismissed, and we no longer consider that in connection with this case. Mr. Bruce will correct me if I'm wrong.

I'm anxious to hear what the Thompson position is. We didn't get a prehearing statement from them so we don't know. It's my hope that we have agreement on the proposal.

But with that, we'd move the admission of all those exhibits, Exhibits 1 through 18 in Case Number 13,771 and Exhibit 1 in Case 13,594.

And that concludes our direct of this witness.

EXAMINER JONES: Objection to the exhibits?

MR. BRUCE: No objection to the exhibits.

EXAMINER JONES: Okay, we'll admit Exhibits 1 through 18 in Case 13,771 and also Exhibit 1 in Case 13,594.

Objection to dismissing the case?

MR. BRUCE: Well, Mr. Examiner, I'm going to put

Mr. Bennett in -- we are -- Mr. Bennett is actually, in his case -- the Hayes Land and Production case is basically asking for the same thing as was requested in the case that Mr. Hall seeks to dismiss. And I still think -- Depending on what the Division decides, I don't think it should be dismissed. Certainly I'm not going to dismiss the Hayes Land and Production case. Obviously it will be what the Division decides with respect to spacing, but if spacing isn't 160 acres, Mr. Bennett would like an 80-acre nonstandard unit, or some type of 80-acre unit.

EXAMINER JONES: Okay. Ms. Munds-Dry?

MS. MUNDS-DRY: We have no dog in that fight.

EXAMINER JONES: Okay, yeah.

Okay, do you want to redirect to the witness?

MR. BRUCE: Just maybe a couple of questions. I'm going to really wait, just ask my geologist about this stuff.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. But Mr. Wakefield, are you aware that the Division's general rules provide that a gas well is a well that produces at a GOR of greater than 100,000 to one?

A. I do.

Q. Okay. But in this case you're proposing that a gas well essentially be defined as a well that is producing

at greater than 4000 to 1?

A. No, I don't think I said that. Our well's producing in excess of 20,000 to 1 right now. What we ask for is an oil spacing, 160-acre oil spacing, with a 4-to-1 [*sic*] GOR.

Q. You're asking for a new producing GOR of 4000 to 1?

A. That is correct.

Q. And in item -- well, on Exhibit 3 you're stating that --

A. Let me catch up with you first.

Q. Okay, Exhibit 3.

A. All right, I'm getting close.

Q. It's a one-page exhibit.

A. Okay, I have it.

Q. On item 5 you're basically stating that if a well produces at rates in excess of 568 MCF per day then it would in essence be a gas well, in which case --

A. No, what I'm asking for, and what I think I testified to was that in the event that an offset well -- which is what this case involves -- were to be completed with a GOR in excess of that -- or actually, it's not even a GOR, it's a gas rate. In other words, 568 MCF a day is the gas rate for a standard statewide 40-acre oil well with a 4000-to-1 GOR.

Q. 142 barrels a day times 4000?

A. 568, I believe.

Q. So in essence, though, you are saying that if a well produces in excess of a 4000-to-1 GOR for a 40-acre unit it is a gas well?

A. No, that's not what I'm saying. What I'm saying is that if the gas production from the well limitation is exceeded, then that well should be considered as a gas well by hearing. That's all I'm saying.

Q. Okay.

A. Or not a gas well, but not -- That's the wrong statement. It should be considered for the larger spacing. And actually if you get a well that's producing in excess of 568 MCF per day, there's no one that's going to want to drill 40-acre wells that make very little oil and they're going to be drained by the other well. They're going to want to drill wells on a wider spacing.

So the premise is that by drilling wells with high gas rates, oil wells with high gas rates, if it is in the same reservoir that we are producing, or the same type reservoir, no one's going to want to recover 10,000 barrels of oil or 12,000 barrels of oil if they're producing mostly gas and drain each other on 40-acre spacing. It's economically not achievable. I'm not saying anything about being a gas well.

Q. Well, what you're saying, though, is if it produces in excess of that rate, then it has to have 160-acre spacing?

A. I'd like for it to be considered to be that. That -- have to do by hearing. I'm not saying automatically do it.

Q. So --

A. In other words, if -- whatever the evidence would propose, I mean, whoever's drilling the well and producing it would have evidence to what the well is capable of producing.

Q. So the operator --

A. And the only --

Q. -- so the operator would have to propose that or come into the pool?

A. Yes.

MR. BRUCE: I have no further questions, Mr. Examiner.

EXAMINER JONES: Ms. Munds-Dry?

MS. MUNDS-DRY: No questions.

EXAMINATION

BY EXAMINER JONES:

Q. Mr. Wakefield, it looks like you've done a lot of work to distinguish this reservoir. Is it --

A. Well, I felt like I was in a lot of trouble.

Q. Looks like a fun project.

A. Yeah, it's been fun, but it's also been very frustrating. We had no idea what we were going to find.

Q. It looks like you may have a gas -- or an oil zone, and then a lower permeability, a lower porosity but fractured lower zone that produces gas. Is that the way you look at it?

A. Well, the -- I think the majority of gas is coming from the high-porosity intervals that we talked about earlier, where the well blew out on your --

Q. Okay.

A. -- your mud log.

Q. Right, the top of your -- considered the gas interval?

A. Top part was oil. On Exhibit 8, down to 6380 we predominantly were producing -- you know, we're drilling through zones that had mostly oil.

Q. Yeah.

A. And then around 6380 we started drilling high-porosity gas zones. And when they were drilled into they kicked. We had just brine in the hole, we had to mud up and get above the formation pressure in order to continue drilling.

Q. Okay. So there's some decent porosity in the top of that gas zone?

A. But it would be oil.

EXAMINER JONES: Yes, sir?

MR. THOMPSON: Mr. Examiner, I haven't been sworn in, but I've been recognized by the State of New Mexico as an expert for many years, long time ago.

MR. BRUCE: And Mr. Examiner, for the record this is Mr. Thompson.

EXAMINER JONES: Mr. J. Cleo Thompson?

MR. THOMPSON: J. Cleo Thompson. There's something that's probably -- I concur by a whole lot here, and that's hard me to say.

But there's one point that is a little misleading, and that is this porosity question. The porosity tools are influenced by caliper. Clearly it's -- the caliper shows an increase. That copy doesn't show it good, but another one does. You're probably dealing with a fractured reservoir to some extent. I just wanted to bring this point out to you.

I hate to see the State of New Mexico encouraging overproduction with a high GOR where you leave oil in the ground. The Lord knows we need all the oil we can muster, and the higher that GOR is, the lower your oil recoveries will be. This is universal. It's not just in New Mexico, it's not just in the United States. It's everywhere. And when you increase that and allow an operator to take

advantage of it, it's going to hurt the recoveries not only to him but to the neighbors.

I appreciate -- You've asked some brilliant questions today, and I compliment you. I've enjoyed sitting in with you.

EXAMINER JONES: Thank you, Mr. Thompson.

MR. THOMPSON: Thank you for letting me speak.

Q. (By Examiner Jones) Okay. I guess the rub here is the combination of an oil reservoir and a gas reservoir where your analysis of how much bubble-point pressure it would take to compress that much gas into that much oil was pretty revealing, I thought.

It does seem like you got kind of below that high permeability zone in the top of your -- what you consider the gas leg, which is below your oil. It looks like you may have a bunch of fractured gas.

A. (By the witness) And that's what we tried to show on Exhibit Number 14.

Q. Okay.

A. And all of it's coming out the top, it's all flowing behind pipe. There's no separation of the two.

I don't disagree with Mr. Thompson's comment that, you know, preserving oil production is our number one goal. I'm not trying to circumvent that in any way, shape or form. However, we have examined this well for 108 days,

trying to produce it to do just that, and we are unable to do so.

And I would tell you that -- if you go back and look at some of the production data, which doesn't tell the whole story, but it does tell some -- when we try to keep the gas rate within, you know, 4 to 1 -- you know, Mr. Thompson implies that 2 to 1 is the maximum gas. Well, I'd represent that nobody in the State of New Mexico adheres to that, necessarily.

There's numbers of -- high numbers of wells that produce more initially than 2000 to 1 GOR in the Bone Springs. And the provision for the NMOCD is to allow that, that's happened over and over again. 4000 to 1 is not unheard of. The South Bone Springs Field was developed in the 1970s with a 5000-to-1 GOR on 160-acre spacing in the first Bone Springs lime. We produce it.

Now it never produced any kind of these -- you know, anywhere near these kind of gas rates. It's produced about 650,000 barrels of oil and about 950 million cubic feet of gas. But the initial setup on it was that it would have the capability -- the capacity of producing at higher rates.

Q. Right.

A. So there is precedent for forming 160-acre units in the Bone Springs and at high GORs. I'm not saying that

the goal would not be for the NMOCD to produce at lower GORs, but there is provision for higher GORs.

And certainly here, our goal was to preserve oil rate. Because we were not aware of how much gas we were going to produce, we didn't perforate this one perforation at a time, we perforated the entire interval. And I don't know that it would have done any good with the vertical connectivity that we have.

So it is our position that the only fair way to preserve equities here is to form a west-half -- Do you want to submit that?

MR. HALL: Do you want to discuss it? Go ahead.

THE WITNESS: He just handed me the field rules for the field we're talking about, South Bell Lake Unit. I can tell you the -- it was Order Number R-4539.

Q. (By Examiner Jones) Can you say that one more time?

A. R-4539, Case Number 4937, back in September of 1974.

Q. Okay.

A. The only point I'm making is -- trying to make here is that since we have a nonstandard location we're trying to make it equitable for all parties, for -- we have the same interest regardless. But what we don't want to do is be saddled with 40-acre development for uneconomic wells

to be drilled. And they would be uneconomic given these conditions, because there isn't enough gas and oil there to justify additional drilling on 40-acre spacing. That we also, because it is a nonstandard location, be sensitive to the equities for the people in the west half of the northwest quarter, Bill Bennett being one of those.

Now having said that, the 160-acre makes a better situation, we think, over an 80 that he's proposed. His 80 would wind up being a standup 80, being the northwest of the southwest and the southwest of the northwest, and a commensurate 80 being the southeast of the northwest and northeast of the southwest, with a laydown in the north half of the northwest and the south half of the southwest.

The Commission, when we came here before, did not want to do that. They felt like that was the wrong thing to do. And it wasn't necessarily because of the equities, it was just they didn't want to do that, to form standups and laydowns in the same half section.

Now if that's what you deem you want to do, that's fine with us. We can live with that, because it would protect us for a lease drilling an offset in the southwest northwest.

Q. Okay, this rule number 2 you propose, with -- where someone else is coming to hearing if they drill a well over on the -- Section 10 -- I should say, if you've

got a well there, would that be an east half of the east half spacing unit, if they came and they had the higher --

A. It would be that, yes. If that's what they wanted.

Q. If they want it.

A. I mean, more than likely they're going to find an oil well.

Q. Okay. And you're not afraid they're going to get into your fractures and drain you where you're not --

A. That's what I'm saying --

Q. -- you're not limiting yourself to one well?

A. That's -- well, but we have the option of drilling an optional 80.

Q. Okay, okay, you've got an option to drill one more?

A. Right.

Q. Okay.

A. And on this kind of a well it's going to be uneconomical to drill more than one anyway, for us anyway.

Q. Yeah, I see that.

A. Our economics.

Q. So you're saying somebody else, if they get into those fractures, they're going to kill their economics also?

A. That's right, 40 acres will not be supported by

that kind of a reservoir. They will want protection from doing that.

Q. Okay.

A. These wells cost nominally $850,000 to drill and complete, because they don't have to be treated. If they have to treat the well, then the costs go up to a million dollars.

Q. How much -- what kind of completion do you do on these?

A. On ours it's just a light acid job involved. If you have to frac it, the frac job is minimally going to cost $150,000, puts it up to about a million bucks. You need -- at a million dollars you need 45,000 barrels of oil at a 3-to-1 GOR lifetime, to make it work on a 2-to-1 basis.

Q. Okay, do you think your cement job -- it obviously wasn't really good across this interval, but it is -- production is coming from where --

A. The cement log we ran -- or the cement bond log was good.

Q. That was okay?

A. Yeah.

Q. But you had communication --

A. -- in the reservoir.

Q. -- in the reservoir, okay. Okay. Well, this is

interesting. There's no other Bone Spring pools out here, I take it?

A. The closest one is identified by J. Cleo Thompson as being in the Section 1 and 2 of 21 South, 27 East, which would make it seven, eight miles to the northeast.

Q. Northeast.

A. It's the closest Bone Springs production.

Q. Okay.

A. Of a commercial nature, I'll put it that way. There are some 2000, 3000, you know, plugback completions, but that's it.

Q. It's a shame we can't figure out the orientation of any of those fractures down there.

A. I'm sure J. Cleo is going to try.

Q. You'll figure it out eventually, I guess. Okay.

A. Their first well may not have been real successful. They'll probably drill another one.

EXAMINER JONES: Well, I think that's all I have right now to ask.

Anybody else want to ask this witness any questions?

MR. BRUCE: I have nothing -- no further questions.

EXAMINER JONES: Okay.

MR. HALL: That concludes our direct --

EXAMINER JONES: I'm sorry.

MS. MacQUESTEN: Before we move on to the next witness, because Mr. Thompson made a statement, under the rules of procedure for these proceedings the other parties do have the opportunity to cross-examine him if they wish, so I wanted to ask if either of you wanted to ask Mr. Thompson any questions after his statement.

MR. HALL: I don't believe so, thank you.

MS. MUNDS-DRY: No questions.

EXAMINER JONES: Okay, thank you.

MR. HALL: That concludes our direct case, Mr. Examiner.

EXAMINER JONES: Okay. Mr. Bruce?

MR. BRUCE: I promise to be much shorter. I'm going to call Mr. Bennett to the stand first.

MR. WAKEFIELD: Mr. Bruce, do you want any of these exhibits left up here?

MR. BRUCE: You can leave whatever you want up there, Jim.

MR. HALL: Are you going to use them?

MR. BRUCE: No, I don't think so.

MR. WAKEFIELD: Bill, do you want the plat with the wells on it?

MR. BENNETT: I've got everything I need.

MR. BRUCE: Mr. Examiner, I'm going to have

William Bennett testify. I'm not going to qualify him as an expert. He's an interest owner in Hayes Land and Production, and I just want to get some basic facts on the -- in the record.

WILLIAM BENNETT,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Bennett, could you state your full name and city of residence?

A. William Bennett, Midland, Texas.

Q. And for the record, what is your normal occupation?

A. I'm a landman.

Q. What is your relationship to Hayes Land and Production, L.P.?

A. I'm the sole owner.

Q. Okay. Does Hayes Land and Production, L.P., own a mineral interest in Section 11?

A. Yes.

Q. And you have in front of you Kaiser-Francis Exhibit 6. What -- Looking at this, what does Hayes Land and Production own?

A. It owns a half mineral interest in the west half

of the northwest quarter, shown as tract 1, 80 acres, on his Exhibit Number 6.

Q. Okay. And a mineral interest, and it has been leased to someone, right?

A. Yes, yes.

Q. And so you are a royalty owner?

A. Yes.

Q. Does Hayes Land and Production own a mineral interest in the west half, southwest quarter, which is designated tract 2 on this exhibit?

A. No.

Q. Okay. So the well is actually located on tract 2, correct?

A. Nineteen feet from the centerline, yes.

Q. So it's located on tract 2, but only 19 feet from your lease?

A. Right.

Q. Now these combined matters concern that well which is in the northwest southwest of Section 11. The previous case, 13,594 was filed asking for a nonstandard 80-acre unit comprised of the northwest southwest and the southwest northwest. Are you now aware of that case?

A. I'm now aware of it.

Q. At the hearing in that case there was testimony -- and Mr. Wakefield did refer to that, that due to some

confusion there was some testimony that all parties were notified and that the interests were the same throughout the west half, west half. You read the transcript of that case, did you not?

A. Yes.

Q. Was that testimony correct?

A. No.

Q. And to summarize, it's because Hayes Land and Production owns in the southwest northwest, but not in the well site, the northwest southwest?

A. Correct.

Q. And Hayes Land and Production was not notified of the Application; is that correct?

A. That is correct.

Q. Now what is Exhibit 1 that has -- Hayes Exhibit 1?

A. It's a copy assignment from Hayes Land -- Hayes -- excuse me, Hayes Properties, Inc., to Hayes Land Corporation and Hayes Land Production Company, assigning each a one-half mineral interest and surface interest in the west half, northwest quarter.

Q. So Hayes Properties, Inc., owned the entire surface and mineral estate in that 80-acre tract?

A. Yes.

Q. And then assigned it to two different entities?

A. Yes.

Q. Even thought the names are similar, they are two separate corporate entities, are they not?

A. Yes.

Q. And their ownership is different?

A. Yes.

Q. You own Hayes Land and Production, and who owns Hayes Land Company?

A. My brother, Brad Bennett.

Q. Now the assignment was into Hayes Land and Production -- I don't have that in front of me, but Company. Is entity now Hayes Land and Production, L.P.?

A. Yes, it was converted to L.P.

Q. Okay, and is Exhibit 2 a copy of the certificate showing the conversion into the L.P.?

A. Yes.

Q. Now you said you're a landman. You're not a technical witness, are you?

A. Correct.

Q. But in your opinion, must either the southwest quarter, northwest quarter, or the entire west half, northwest quarter of Section 11 be in the well unit for the Mesa Grande Number 2?

MR. HALL: Well, I guess I'm obliged to object if he's calling for opinion testimony from a fact witness.

THE WITNESS: Well, for the basis that I'm 19 feet from it is why, you know, field rules would be 330.

MS. MacQUESTEN: Mr. Bruce, are you sure you don't want to qualify him as an expert?

Q. (By Mr. Bruce) Well, he's a landman, he's not a geologist or engineer, but let's -- I'll retract that question and say, how far is the well from your lease line?

A. Nineteen feet.

Q. And in the Application for the pool rules case, Kaiser-Francis stated in its Application, thereby admitting, that the well was draining more than 40 acres, correct?

A. Yes.

Q. And you sat through Mr. Wakefield's testimony, did you not?

A. Yes.

Q. Where he orients a north-south reservoir?

A. Yes.

Q. Based on that, do you think that well is draining from your acreage?

A. Yes.

Q. Since it's -- without doing the math, certainly if it's draining more than 40 acres and you're 19 feet away, it's just a commonsense conclusion?

A. Yes.

Q. And if you're being drained, you think your correlative rights are being adversely affected if you're not receiving proceeds from that well?

A. Yes.

Q. And Mr. Wakefield stated that all proceeds have been suspended, but you certainly have not received any proceeds from that well?

A. No, I have not.

Q. Also any -- any -- whether it's a pool rules change or a nonstandard unit in which all or a portion of your tract is included in a well unit, do you think that should be effective as of the date of first production from the Mesa Grande 11 Well Number 2?

A. Yes.

Q. And were Exhibits 1 and 2 prepared by you or compiled from your company business records?

A. Yes, they were.

Q. In your opinion, is the granting of the Application of Hayes Land and Production in the interests of conservation and the prevention of waste?

A. Yes.

MR. BRUCE: Mr. Examiner, the final exhibit I included was an affidavit, Exhibit 3, of notice. I have a tale of woe to tell you. I submitted simply the notice to Kaiser-Francis to show that they did receive notice, and

obviously they did because they entered an appearance in the case.

I have notified -- Mr. Hall has stated he's going to either file an amended application or continue this case. I basically notified everyone that Mr. Hall did for his pool rules case. I was without an office facility basically from September 1 to September 12th and everything. I will submit my notice affidavit at the continued hearing, showing notice to everyone.

In addition I need to, I think, publish notice in the newspaper because there was some return mail. But I would request your permission to do that at the continued or the renewed hearing on Kaiser-Francis -- I would continue -- ask to continue the Hayes Land and Production case to coincide with the hearing date of the amended application in the Kaiser-Francis matter.

EXAMINER JONES: So you will not be restating it, just continuing it, and it will be worded exactly --

MR. BRUCE: It would be worded -- yeah, there's no change, I just would like it continued so that we can get the notice materials in.

And I'd just move the admission of Exhibits 1 through 3, and I'd pass the witness.

EXAMINER JONES: Any objection?

MR. HALL: No objection to the exhibits.

No questions.

EXAMINER JONES: Exhibits 1 through 3 will be admitted.

And no questions -- Ms. Munds-Dry?

MS. MUNDS-DRY: No questions.

EXAMINER JONES: I really -- Gail, do you have questions?

MS. MacQUESTEN: No, I don't, thank you.

EXAMINER JONES: You still -- I guess you guys are all going to come back to the next hearing and present witnesses again or --

MR. BRUCE: You know, I don't anticipate presenting witnesses. I think -- I would like to get it all on the record today, other than presenting my notice materials.

MR. HALL: That's our preference as well. I will discuss with Ms. MacQuesten and Mr. Bruce the notice I think we need to have accompany an amended application.

And so you know, we have notified everybody in the west half of Section 11, royalty interest owners included. We've also notified all the adjoining offset operators. That brought us Thompson --

MR. WAKEFIELD: -- Marbob --

MR. HALL: -- Marbob --

MR. WAKEFIELD: -- Devon.

MR. HALL: -- and we also notified Devon. I'm thinking now that with the amended application we would need to notify on 40s, whoever else might be out there. We'll find that out and add notification to them as well.

MR. WAKEFIELD: Should be the same.

MR. HALL: That's all we contemplate doing. I don't foresee the need for bringing back witnesses.

EXAMINATION

BY EXAMINER JONES:

Q. Okay. Mr. Bennett, are you still -- you still -- after hearing Mr. Wakefield, you still want a standup 80 acres?

A. It seems to be more reasonable to me.

Q. What would happen to your -- to that 40 acres in the northwest northwest, then? It would have to be a laydown 80-acre spacing unit, and do you think it would ever get drilled?

A. Would it have to be a laydown? It couldn't be a standard location on 40, if the infill wells are 80, 40?

EXAMINER JONES: Talking to a landman, here I go.

(Laughter)

Q. (By Examiner Jones) Anyway, do you still --

A. I guess I want to say I'm not opposing the 160, I just feel that 40 -- that the 80 would be more reasonable. But I'm not opposing the 160.

Q. It would be more reasonable because -- Say that one more time. Why do you think it would be more reasonable?

A. Just Bone Spring wells on a 160-acre proration unit, I've just never participated in one. I say it just doesn't seem --

Q. Sounds a little bit --

A. -- a little --

Q. -- stretched?

A. -- stretched.

EXAMINER JONES: Okay. Okay, that's -- Other question?

MR. HALL: No, sir.

MR. BRUCE: No further questions.

EXAMINER JONES: Ms. Munds-Dry?

MS. MUNDS-DRY: No questions.

EXAMINER JONES: Okay, thank you, Mr. Bennett.

THE WITNESS: Thank you.

EXAMINER JONES: And did Marbob have a statement, or are they still after the -- changing from 320s down to 160s? They still don't want it to extend beyond the -- As proposed by Mr. Wakefield, you know, it would be possibly extended through hearing, so I guess --

MS. MUNDS-DRY: And I don't know, this change was just brought to my attention today, so obviously since my

client's not here I don't know what the position is yet, so I'll have to relay that --

EXAMINER JONES: They would always have a chance to come to hearing --

MS. MUNDS-DRY: Sure, sure.

EXAMINER JONES: Okay. This is still Case 13,778?

MR. BRUCE: Well, I think this is more related to the Kaiser-Francis pool rules Application.

EXAMINER JONES: Okay.

MR. BRUCE: And this witness is from J. Cleo Thompson.

JEFF BRYDEN,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Jeff Bryden, Midland, Texas.

Q. Who do you work for and in what capacity?

A. I'm a geologist for J. Cleo Thompson.

Q. Have you previously testified before the Division?

A. No, sir.

Q. Could you summarize your educational and employment background for the Examiner?

A. I graduated with a bachelor's degree in environmental geology, geohydrology, from the University of Wyoming in 1999. I got a master's degree in geology, also from the University of Wyoming.

Since then I've been working in the oil and gas field in Midland for -- interned for Burlington, and then Nadel and Gussman for five years, and then J. Cleo Thompson.

Q. And not only with J. Cleo Thompson but with Nadel and Gussman, did your area of responsibility cover southeast New Mexico?

A. Yes, sir.

Q. And are you familiar with the geology involved in the Bone Springs wells in this general area?

A. Yes, sir.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Bryden as an expert petroleum geologist.

MR. HALL: No objection.

EXAMINER JONES: No objection, okay, Mr. Bryden is qualified as an expert petroleum geologist.

Q. (By Mr. Bruce) Mr. Bryden, could you, I think, go first -- your -- you sat through Mr. Wakefield's testimony, did you not?

A. Correct.

Q. And he presented some cross-sections that you looked at also, correct?

A. That's correct.

Q. Could you identify your Exhibit 1, which is a cross-section, go through that and maybe outline your points of agreement and disagreement with Mr. Wakefield?

A. This is a four-well cross-section running from west to east, starting at the J. Cleo Thompson Bennett well found in the northwest corner of 10, through our new well the Mesa Arriba Number 4, through the Morris Antweil Mesa Arriba Number 1 which recompleted into the Strawn, which is now the J. Cleo Thompson Mesa Arriba Number 1, and then the final well on the right-hand side is the Kaiser-Francis Mesa Grande, I guess, 11 Number 2 is their full name.

I have outlined the zone of interest in green to just highlight for everybody, showing that this zone is present in an east-west fashion from the Bennett well, continuing through the Mesa Arriba, the Mesa Arriba Number 4, and over to the Kaiser-Francis well, showing that they are the same stratigraphic interval. There's a carbonate zone that shows similar porosities, permeabilities, from east-west.

Q. Now does this -- and you'll get into this in a minute in a little more detail, but does this indicate,

number one, a -- perhaps a different shape reservoir than Mr. Wakefield --

A. It does.

Q. -- testified about? Does it also indicate that the reservoir may not be as limited as Mr. Wakefield --

A. That -- I would agree to both of your statements. I do not agree that it is a north-south-trending Bone Springs field, and I do not agree that it is a one-well feature that he is showing in his isopach here.

As you can see, we have the well -- the Bennett well is almost a mile away to the northwest, showing that same equivalent zone, and I've gone back using Mr. Wakefield's porosity cutoffs.

I have also included a gamma-ray cutoff, which I will explain why I believe the reservoir is also in that Morris Antweil Mesa Arriba Number 1. I show that the J. Cleo Thompson Bennett Number 1 well to the northwest has 20 feet of net pay, that our well -- I agree with him -- only has around five feet of net pay.

The Morris Antweil Mesa Arriba Number 1, it is a poor log. What we can go off of partially is the gamma ray. We do have a cleaner gamma ray, which would possibly indicate the presence of a reservoir there. It has -- You know, from the porosity log I can agree that it shows possibly only -- what does he show on his map? -- four feet

of pay. But because of the poor quality of the log and the cleanness of the gamma ray, it could be upwards of 20 feet of pay.

And then over in the Kaiser-Francis well, using again his porosity cutoff but also looking at the gamma ray to somewhat -- I could only come up with 18 feet of pay. I'm not going to argue too much of the reservoir quality, but I guess what I'm saying is, the J. Cleo Thompson Bennett Number 1 well to the northwest is equivalent from a log standpoint of a well as to the Kaiser-Francis.

Q. Okay. Let's move on to your Exhibit 2, which is a package of data, and the first page kind of sets up some information. In looking at Exhibit 2, let's just start with the first page, Mr. Bryden, and let's start out with the yellow-colored acreage --

A. Okay.

Q. -- and the outline you have there, could you describe that first of all?

A. Okay. Page 1 shows -- Let me back up and tell you that the green dots on here show all Bone Springs producing wells. The yellow acreage that is colored in is the acreage -- is the J. Cleo Thompson acreage.

And the four red boxes that are on there are a blowup of four different areas, one around our well, just to show the detail of the cross-section, to show the wells

that we're talking about, and then three fairly close Bone Springs fields up to the northeast.

Q. And before we get off of this page, the blue squares is the cross-section you just discussed?

A. Yes, the -- it's actually four blue dots with lines interconnecting it.

Q. And in looking -- you looked at Bone Spring data, and you're showing some Bone Spring pools to the north northeast. Did you look to the south and southwest?

A. I did, and there was no significant pools down to the south and the southwest. I'm using commercial databases, Dwight's Production Data, and a Tobin land grid to create this map, and there was no significant fields either to the west or to the south. The significant fields were up to the northwest -- northeast, I'm sorry.

Q. Okay. Let's move on to the second page of Exhibit 2, and that's a blow-up of one of those boxes, correct?

A. Yeah, it's a blow-up of the first box around the four key wells in the cross-section, again going -- just showing that the cross-section runs from the Bennett well to the Kaiser-Francis well. This is a -- Let's call it an illustration of the potential gut of the reservoir, showing that it has a northwest-to-southeast trend. In looking at the other Bone Springs fields in Eddy County, they seem to

also have this same trend of -- the northwest-to-the-southeast trend.

Q. Okay. Now by this red line, what you said -- to show the gut of this pool, you're not indicating that this would be the ultimate limit --

A. No, sir.

Q. -- of the reservoir?

A. It is sort of the gut of the known pool right now. We know that the reservoir is in the Bennett well. We believe we are on the edge of it in the Mesa Arriba Number 4, we believe it is in the Mesa Arriba Number 1, and it is obviously in the Kaiser-Francis well.

Q. Okay, let's move on to the next page of this exhibit. What does this reflect?

A. The next page of this exhibit shows a field up in the northeast corner of 21 South, 27 East. It is the Avalon East-Bone Springs. And I showed a blow up of this to show the Bone Springs production underneath, from Dwight's Data, shows the oil and gas production of these Bone Springs oil wells.

Cums on these wells range anywhere from 5000 to 45,000 barrels of oil and up to .6, .9 of a BCF. I'm just looking at some wells in there, showing what -- typical production of what you're calling 40-acre oil wells in the Bone Springs that have already been pre-established.

Q. And down in the lower right, above the J. Cleo Thompson heading --

A. That's correct.

Q. -- the 40 acres -- this indicates that this pool is spaced on statewide 40 acres --

A. That's correct.

Q. -- correct? And there is a special order which instituted a 5000-to-1 GOR for this pool?

A. That's correct.

Q. But just looking at this, I forget the exact quote, but Mr. Wakefield said something about the well might produce -- his well, the Kaiser-Francis well, might produce .4 of a BCF. Obviously a lot of these Bone Spring wells produce quite a bit more than that, do they not?

A. That's correct. He -- His testimony showed that their well either produced .4 of a BCF or, in another plot, up to .8 of a BCF, and these fall right in the range of these 40-acre oil wells on the Avalon East-Bone Springs field.

Q. Okay. Now let's go to the next page. What does this page show?

A. Again, this is a blowup of a Bone Springs field. This is the Old Millman Ranch-Bone Springs field, showing again production in the -- I'm looking at some oil production here, I'm seeing as low as, oh, 40,000 to 50,000

barrels of oil and as high as .6 -- I do believe there's 1.5-BCF, 1.9-BCF well in this field. The field rules are again listed right above where it says J. Cleo Thompson at 40-acre oil, 80-acre gas and --

Q. This is an associated pool, so you could have either an oil well or a gas well on it?

A. Right.

Q. But even the gas wells -- and take a step back. This well has a 5000-to-1 GOR --

A. Right.

Q. -- under special rules, does it not?

A. I believe so.

Q. But even for gas wells, they're only providing for 80-acre spacing?

A. That's correct.

Q. And the GOR, the 100,000 to 1, that's the normal OCD definition of a gas well?

A. That's correct.

Q. Let's move on to the next page and discuss that briefly.

A. Last one is the Burton Flat-Bone Springs Pool. Again the production is listed underneath showing production anywhere from 2000 barrels up to, I believe, 27,000 barrels of oil, anywhere from just under .1 of a BCF to upwards of almost a BCF.

Q. This pool doesn't appear to be quite as large in areal extent or as prolific as the other two pools?

A. I would agree.

Q. And again, this is -- the Burton Flat is an associated pool, correct?

A. Correct.

Q. Which provides for 40-acre oil spacing and 160-acre gas well spacing?

A. Correct.

Q. And again, this third pool also has a producing GOR of 5000 to 1 --

A. Correct.

Q. -- under special pool rules?

A. Correct.

Q. Okay. And I know this is a new producing area you're talking about with respect either to Kaiser-Francis' well or the Thompson wells, but do you see -- have you seen anything in your examination which would differentiate the Kaiser-Francis well from the wells in these other three pools?

A. They're all Bone Springs reservoirs. That is a lumping together of all the Bone Springs. Could be Bone Springs sand, could be Bone Springs carbonates. This is a Bone Springs carbonate reservoir. But other than that, no, I do not.

Q. Okay. And is it fair to say that J. Cleo Thompson does not want 160-acre spacing on its acreage?

A. Our opinion is, we do not want to be denied the ability to drill a well in that northeast corner, so I believe we would like the 80-acre spacing.

Q. 80 acres, with one well per quarter quarter section?

A. Yes.

Q. Do you have anything further you'd like to state at this time, Mr. Bryden?

A. No, sir.

Q. Were Exhibits 1 and 2 prepared by you or under your supervision?

A. Yes.

MR. BRUCE: Mr. Examiner, I'd move the admission of Exhibits 1 and 2.

EXAMINER JONES: Objection?

MR. HALL: No objection.

MS. MUNDS-DRY: No objection.

EXAMINER JONES: Exhibits 1 and 2 of J. Cleo Thompson will be admitted into evidence.

Mr. Hall?

CROSS-EXAMINATION

BY MR. HALL:

Q. Mr. Bryden, do you have enough confidence in the

well log for the Mesa Arriba Number 4 well to establish the continuity of this reservoir all the way across to the northwest corner of Section 10?

A. I do know I have two end points, being the Bennett well and the Kaiser-Francis well. This well lays directly in between those wells. We did recover oil and gas on a drill stem test of this zone. There's nothing in my geologic opinion that says that that should not be connected in.

Q. But what did the drill stem tests show you?

A. It did show that we did have a tighter zone. I have testified that we believe that we're on the edge of the reservoir. We had five feet of free oil, 45 feet of drilling mud and I believe 1500 feet of gas, and we had gas and oil in the sample chambers.

Q. What were the recoveries from that zone?

A. From the sample chamber?

Q. Yes.

A. Sample chamber was 900 cc's -- Let me look at my notes real quick, I don't want to --

Q. Sure.

A. Sample chamber was 900 cc's of free oil, .12 cubic feet of gas.

Q. Mr. Bryden, as I understand Thompson's position here, you're more interested in anything from being

constrained from drilling another well in the northeast quarter of Section 10; is that right? You want to be able to do that?

A. That's correct.

Q. Wouldn't you agree that if we adopted 160-acre standup units with the option for an additional infill well in the undrilled 80, that would put you in the same position?

A. We currently have two wellbores in the Bone Springs, not producing from them, but we will -- we have two wellbores that have penetrated the Bone Springs, and I believe it is our position we would like to have an additional wellbore up in the northeast corner.

Q. If we adopt what I understand is your position, if we go to 80-acre spacing, that will leave you with two laydown units north and south of the resulting 80-acre unit in the west half of Section 11 and the east half of Section --

A. I don't think I quite follow your -- currently -- The Mesa Arriba Number 4 was drilled on a standup 80, is when we permitted the well.

Q. Wouldn't you agree it's a possibility that if we adopt 80-acre spacing in the west half of Section 11, you would still face the possibility of having four locations with two laydown units in the north and the south?

A. Of our Section 10?

Q. Section 11?

A. Section 11. Yes, I would agree to that. I mean, I would agree that your statement is correct.

Q. Would you agree at all that development on what is essentially 40-acre spacing would be unwarranted in view of the evidence you've heard today?

A. I don't know if I have a firm answer on that. Not knowing the extent of the pool, I don't think we truly know at this point in time.

Q. Thompson understands, doesn't it, that if the well comes in at lower gas rates it may be permitted as an oil well --

A. Yes.

Q. -- spacing, and that acreage may be developed on 40-acre spacing?

A. That's correct.

MR. HALL: Nothing further, Mr. Examiner.

EXAMINATION

BY EXAMINER JONES:

Q. Well, Mr. Bryden, you didn't give us an isopach map?

A. That's correct.

Q. You just did most of the work doing the cross-section, but you didn't do the map?

A. Yes, sir.

Q. But you basically think it should be trending northwest-southeast?

A. That's correct.

Q. Which means that your Mesa Arriba well might be even improved by going north?

A. That's correct.

Q. Well, that's -- I mean, you have tested the well, you said? You --

A. No, we have not.

Q. -- just did a drill stem test on --

A. We have drill stem tested on it. We should be completing that well probably within the next week.

Q. Have you already picked your perfs?

A. We've picked some zones of interest. I agree with his testimony that where we're getting the resistivity spread on our well, in our log, is where we're going to perforate. It's the same equivalent interval that they tested.

Q. Are you going to perforate the lower part and then test it and then perforate the upper part and test it separately?

A. At this point in time we have no plan to test things separately.

Q. Have you looked at the way the other Bone Springs

-- You showed other pools that are reasonably high GOR for ultimate recovery pools, and do you think -- Did you look at those to see how those wells were completed and --

A. I have not yet. I've been focusing in on their completion. I know they did two acid jobs, a small ball-out job the first time and a larger job the second time.

Q. Have you seen any of the PVT data that Mr. Wakefield alluded to?

A. I saw it today. They had supplied us with pressure data about a week ago, I guess.

Q. Pressure data, but not PVT data?

MR. HALL: I believe they got PVT data as well.

EXAMINER JONES: You got it --

MR. WAKEFIELD: I don't remember that. We've given PVT data to anyone who's asked for it. Whether they asked for it and got it, I can't remember. If they don't have it, I'm more than willing to give it to them.

THE WITNESS: Yeah, they've -- they've supplied us everything we've asked for, so...

Q. (By Examiner Jones) Okay. Do you think the fractures in the lower part might be a major contributor or just an initial burst of gas?

A. I do believe it is a -- you know, it has a chance to be a fractured reservoir. We are seeing skipping on the resistivity log, which can also indicate a chance of

fractures. And the whole reservoir makeup, I'm not exactly sure what's going on there. We do know that they did have oil in the pits when they drilled through it and then got a big gas kick. That's really all we can go off of right now.

What secondary porosity is really contributing to the reservoir, it's really hard to say without -- without more detailed logs at this point in time.

Q. Okay. The well that you would drill in the northeast northeast, would you run any kind of different logs, like an FMI maybe, to --

A. I believe so at this point in time, if we had reservoir-quality rock.

Q. Yeah.

A. FMI or what Schlumberger, I guess, calls a sonic scanner is the best way to identify secondary porosity and fractures in carbonate reservoirs.

Q. And oriented fractures?

A. And oriented fractures.

Q. Okay. Did you have time to look at these proposed rules and have any proposed modification up or down of the GOR that Mr. Wakefield presented?

A. We have talked about it, but I don't know where we -- what conclusions we came to.

MR. BRUCE: I would gladly submit comments on the

Rules.

I did see Mr. Hall's letter, he wrote a letter to Holland and Hart and to me, and I think I -- As I said, my office was down for two weeks. I think I saw it Tuesday. And since the case is continued I don't mind making my comments and having Scott respond to them in writing.

EXAMINER JONES: That sounds like a reasonable use for us to look at the case, definitely, is once you get together with your engineer, and -- you know, you guys hash out how you think these rule should be modified or left the way he's proposed them or whatever, or totally be done different.

THE WITNESS: Okay.

EXAMINER JONES: Any more questions of Mr. Bryden?

MR. BRUCE: I have no further questions of my witness.

MR. HALL: I want to briefly recall Mr. Wakefield, if we might.

JAMES T. WAKEFIELD (Recalled),

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

DIRECT EXAMINATION

BY MR. HALL:

Q. Mr. Wakefield, you've heard Mr. Bryden's

testimony. Specifically with respect to the way he attempts to correlate from the Mesa Grande 11-2 well over to the Bennett Number 1 well, I believe he said he saw the equivalent for the second Bone Springs lime that we're talking about here today. Do you agree with his characterization that that's an equivalent zone?

A. Well, part of it's equivalent. As we talked about earlier, the upper part of what we drilled on that mud log -- I don't have my stuff in front of me, I think it's Exhibit A -- showed that we were drilling an oil zone. I think that oil zone is equivalent to what he's seeing in the Bennett 2-15 from -- on his log it would be 6270 to 6320. That's what I would consider to be the oil zone.

I think what we have is the gas zone, it's immediately below that, which is not developed appreciably. It's pretty shaly on their log. And they didn't get a kick. They're updip to us, first of all, so if they were going to -- if they -- it was actually going to be high gas all the way through the reservoir and they're updip, they would have mostly gas and they would see the same gas zone, if they have the equivalent interval. Undoubtedly they would see it.

Since they didn't see it -- it wasn't seen in the Mesa Arriba 1 well or the Mesa Arriba 4 well -- I would represent that that is not equivalent to what they're

seeing in their logs.

Now having said that, in looking at the exhibit that he presented, I had not seen. We did a search of -- through my technician. I should have done some more work, I guess, on it. I didn't catch these three fields. But they do show the same thing we're talking about.

They show -- particularly if you look at the third page of his exhibit for the Avalon East-Bone Springs field, if you look at the cum oils and the cum gas, it's obviously a gas zone. There's very little oil involved. A lot of these wells are 150,000-to-1, 75,000-to-1-type GOR cumulative.

I don't have the production graphs. It would be interesting to see what their initial rates were. I did pull a couple of wells out of these in the sample that I looked at, and they didn't have very high rates. They had them for a long period of time. They recovered, 200,000, 300,000, 400,000 barrels, MCF of gas, but at low rates, for a long period of time.

Now there are probably some here that are a much higher rate, because there's one that's nearly a BCF. I suspect that it was predominantly a higher-rate well to begin with.

If you go to the one he turned in on the Old Millman Ranch -- that's right, okay -- again, very high

gas-oil ratios. But in a couple of wells, you know, much better production than the first field showed. This is a better oil field than the first one, than the Avalon. This has a lot more oil versus the gas, and GORs are much less.

But again, they felt the necessary situation to get a 5000-to-1-GOR field rule, much like we talked about on the South Bell Lake Unit Bone Springs. Even though it was unnecessary, it was given at the very beginning. But they didn't know that, based on the initial production of the well. The initial production of the well indicated that they needed it, and it was granted by the NMOCD.

And the last one that they show, which is the Happy Valley-Bone Springs again -- Did I do that wrong? Burton Flat-Bone Springs, Burton Flat-Bone Springs -- on that one the spacing is much broader. You know, it's obviously a different kind of animal than the first two in terms of how they wanted to develop it. And the gas-oil ratios are still quite high, 50,000 to 1 on some of the better wells and more than 100,000 to 1 on several. So -- and the Commission deemed on that that they did need the provision for 160-acre gas. Okay?

And what we're asking for here -- We're again kind of reaching out. We've reached out to J. Cleo Thompson, Marbob, Bill Bennett, trying to find a resolution that makes everyone happy here. We're not trying to

railroad anybody, we're not trying to preserve equities. Our leasehold is solid, with or without whatever spacing comes up here.

But what we're trying to do is prevent the drilling of more wells than is necessary to develop the formation, develop the reserves. And with our nonstandard location we need that spacing unit that gives credence to the fact that the recovery is going to be in the northwest quarter and the southwest quarter, and particularly in the west half of the southwest and the west half of the northwest.

We prefer 160-acre spacing, that's a reasonable conclusion based on our understanding of the reservoir. An 80-acre, which is actually what we initially recommended to the Commission and they did not like at all, does not necessarily preserve -- or create -- or avoid creating of waste, because eventually you may have to go up and drill the northwest northwest and the southwest southwest of the section, two more wells that are in our opinion at this time unnecessary for this reservoir.

Now if J. Cleo Thompson goes and drills a well in the northeast quarter, our field rules are not preventing them from doing anything on 40-acre spacing in the east half of Section 10. They can drill whatever spacing they want.

If they get two oil wells on the existing two wells they've got, which they probably are going to do, then our field rules don't prohibit them from doing anything for a gas well they might happen to drill in the northeast northeast or the northwest northeast. They would still be able to do that, because the spacing rules for the gas would be different than for the oil.

So we're just recommending that the Commission give credence to what we've presented, that you look at the equities involved, and we would pray that you would come up with the recommendation -- or approve the recommendation we've made.

Again, it's not our intent to create any angst on the part of J. Cleo Thompson to go out and develop on 40 acres, if that's what they want to do. We're leaving it up basically to them to create an 80-acre unit if they so deem they want to do it, or a 160-acre unit.

Q. Let's clarify one thing, Mr. Wakefield. I think we've given more than one description of the vertical limits of the pool we're proposing. Just so the record is clear, are we proposing that the vertical extent of the pool be from 6312 feet to 6452 feet --

A. Yes.

Q. -- based on the log?

A. Stratigraphic equivalent.

MR. HALL: Yeah.

Nothing further, Mr. Examiner.

MR. BRUCE: Mr. Examiner, like I said, I think if we could submit comments in writing maybe at the next hearing, or I'll give advance notice and Scott can respond to whatever we propose.

I did just want to say two things, which is, you know, the 5000-to-1 GOR that is in these other pools that Mr. Bryden testified about, that's a producing GOR. That's not used to define a gas well. It's just simply the producing GOR.

And I think if you go through the transcript of the reopened case, the Kaiser-Francis reopened case, it's not that the Division wouldn't grant a nonstandard unit. The testimony at the time was that it was not necessary because of uniform ownership, and as Mr. Bennett testified, interest ownership is not uniform.

So I just wanted to make those two clarifying points.

MR. HALL: Mr. Examiner, I think with an amended Application and renotification, that's putting us on a track for bringing this matter back up for hearing probably late October, I'm guessing.

I would suggest that so we can avoid having to have the witnesses come back twice, Thompson could get

their comments in in writing, say, within 10 days, and we would provide a response to those within 10 days and I think close the record based on that and come back and with a new notification and simply ask you to take it under advisement at that time.

EXAMINER JONES: October 26th is late October. Is that what you guys are looking at?

MR. HALL: I think that will allow us to get notice out.

MR. BRUCE: Yeah.

EXAMINER JONES: Okay, and so we're intending to continue the first two cases and -- all three cases, basically.

MR. BRUCE: All three.

EXAMINER JONES: All three.

MR. BRUCE: Subject to Mr. Hall's motion to dismiss his case, I think.

MR. HALL: Well, I don't know that it much matters, really. The only relief accorded in that earlier order was the unorthodox well location, so I think -- you know, and I don't think anyone's objecting to that, so really the salient issues are in the other two cases, so it simply does not matter what we do.

MR. BRUCE: Okay. But yeah, I would continue the case -- land case for four weeks.

EXAMINER JONES: Okay. Is Marbob going to present an opinion on this?

MS. MUNDS-DRY: I'd like to ask them if they -- I'd like us to have the option, I guess. I mean, I don't know but I'd like to be able to respond, and we can certainly respond in the same time frame as Hayes.

MR. HALL: Just so you know, Mr. Examiner, we have provided both Thompson and Marbob the equivalent of what's been expressed in Exhibit 3, which explains the proposal --

EXAMINER JONES: Okay.

MR. HALL: -- and it's my understanding that Marbob was in agreement with it, but I certainly welcome their comments.

MR. WAKEFIELD: Mr. Bennett, is -- possible to supply that information.

MR. HALL: That's correct.

EXAMINER JONES: Mr. Bennett, okay.

MS. MacQUESTEN: Do you want to go ahead an formalize the schedule that Scott proposed?

(Off the record)

MS. MacQUESTEN: Are the parties in agreement that the proposal that Mr. Hall made for a schedule for comments -- is that acceptable?

MR. BRUCE: Yeah, I think so. If I need a day or

two extra, I'll ask Scott, but I -- we'll try to get comments over to Scott and to Ocean within 10 days.

MS. MacQUESTEN: And --

MS. MUNDS-DRY: That is time, Ms. MacQuesten, we can do that.

MS. MacQUESTEN: All right, so the comments will be due 10 days from now, and then Mr. Hall will have 10 days to respond to those if he wishes.

MR. HALL: Right. And I'd like to get us in a position that if we establish agreement on a path forward that we're on schedule to get an amended application to you before October -- well, it would be September 28th. So I think a 10-day response and reply would put us where we need to be.

MR. BRUCE: Yeah.

MS. MacQUESTEN: All right, so --

MR. WAKEFIELD: Ten days is the 24th, gentleman. Total of 10 days. Are we talking about 20 days total --

MR. HALL: That's correct.

MR. WAKEFIELD: -- or ten days total?

MR. BRUCE: We'll work it out.

MR. HALL: We'll get there.

MS. MacQUESTEN: Okay.

EXAMINER JONES: Okay, with that we'll -- We've heard testimony.

We'll continue Case 13,771 till October 26th and Case 13,594 till October 26th, and Case 13,778 until October 26th.

And those being the last cases in this docket, this docket is closed.

(Thereupon, these proceedings were concluded at 1:47 a.m.)

* * *

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

_____, 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 September 19th, 2006.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2006