STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	)	CASE NO. 11,697
APPLICATION OF MALLON OIL COMPANY FOR THE ESTABLISHMENT OF A DOWNHOLE COMMINGLING REFERENCE CASE PURSUANT TO DIVISION RULE 303.E AND THE ADOPTION OF ADMINISTRATIVE RULES THEREFOR, SANDOVAL COUNTY, NEW MEXICO	)	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

January 9th, 1997

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, January 9th, 1997, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

January 9th, 1997
Examiner Hearing
CASE NO. 11,697

* * *

E X H I B I T S

(Continued...)

E X H I B I T S (Continued)

Applicant's	Identified	Admitted
Exhibit 10	10	12
Exhibit 11	11	12
Exhibit 12	18	27
Exhibit 13	35	36

* * *

A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
2040 South Pacheco
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

HINKLE, COX, EATON, COFFIELD & HENSLEY
218 Montezuma
P.O. Box 2068
Santa Fe, New Mexico 87504-2068
By: JAMES G. BRUCE

* * *

WHEREUPON, the following proceedings were had at 2:45 p.m.:

EXAMINER STOGNER: At this time I'll call Case Number 11,697.

MR. CARROLL: Application of Mallon Oil Company for the establishment of a downhole commingling reference case pursuant to Division Rule 303.E and the adoption of administrative rules therefor, Sandoval County, New Mexico.

EXAMINER STOGNER: At this time I'll call for appearances.

MR. BRUCE: Mr. Examiner, Jim Bruce representing the Applicant. I have three witnesses.

If I could have the record reflect that the witnesses are Mr. Coryell, Mr. Jones and Mr. Stalcup, who have previously been sworn in and qualified as experts.

EXAMINER STOGNER: The record will so show.

MR. BRUCE: Mr. Examiner, we'll start off with Mr. Coryell. He's got a big package of exhibits, but many of them aren't too long.

Mr. Examiner, as an introductory matter, if you'll refer to your first exhibit, Exhibit 1, which Mr. Coryell will get to in a minute, it shows what Mallon refers to as the Otero area, seven-section area.

Sections 4, 5 and 6 are within Jicarilla Apache Tribal Contract Number 435. The remaining four sections, 7

through 10 -- Excuse me, that's 434. And then the remaining sections, 7 through 10, are within Jicarilla Apache Tribal Contract 435.

Mallon seeks a reference case for downhole commingling of production from the Fruitland Coal, Pictured Cliffs, Mesaverde, Mancos, and Dakota formations within this area.

Mr. Coryell will present geologic data, and then Mr. Jones will present economic data showing the marginal economics of drilling wells in this area. He also has a lot of technical data from wells in the immediate area and will propose an allocation formula.

And then the final matter is that if this case is approved, we would request that no further notice be given to any other owners for a commingling within this area.

EXAMINER STOGNER: Okay. Now, this is going to be my first case of this type. 7, 8, 9 and 10 are --

MR. BRUCE: -- Jicarilla.

EXAMINER STOGNER: -- Jicarilla contracts?

MR. BRUCE: It's all Indian land.

EXAMINER STOGNER: Oh, it's all Indian land?

MR. BRUCE: Yes.

EXAMINER STOGNER: Okay.

MR. BRUCE: 7, 8, 9 and 10 are Jicarilla Contract 435. They call their oil and gas leases contracts.

And Sections 4, 5 and 6, the top tier, are Jicarilla Contract 434.

EXAMINER STOGNER: So it's all reservation land --

MR. BRUCE: Yes.

EXAMINER STOGNER: -- it's just two separate contracts? A lot like a BLM land, and just separate leases --

MR. BRUCE: Yes, sir.

EXAMINER STOGNER: But it being -- Okay, all right.

GEORGE CORYELL,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Coryell, let's start. Could you describe Exhibit 1 for the Examiner and just briefly tell him what it shows?

A. The purpose of Exhibit 1 is to show the location of the Otero area relative to established production in the southeast San Juan Basin. It shows that we are very close to the edge of that production, although there are some producing wells on the property.

Q. Okay. What is Exhibit 2?

A. Exhibit 2 is a type log of the Otero area showing the major mappable units that we're looking at. If you look at Sheet 1 of 2, on the left-hand side the Fruitland Coal is mentioned, but it was a difficult unit to map, and it has now been mapped in this package. But it would be immediately above the Pictured Cliff sandstone.

The Pictured Cliff sandstone is the first important mappable unit, and that is overlying the Lewis shale. There is some marginal production in the Lewis shale at about 2600 feet. If you can read that on the log, it's just about 200 feet up from the bottom. That's on the left-hand side. Just to -- And that's been referred to as Chacra in the past, just for reference purposes.

Cliff House sandstone is the next important mappable unit. For -- As an example, I split that one out to show that you can split these sandstones out and show that they're more isolated than may appear from mapping the total unit.

Menefee formation and the Point Lookout sandstone complete the Mesaverde group. These are all three units we're interested in.

And the Mancos shale on page sheet 2 of 2, the Gallup interval, beneath the Gallup interval the Semilla sandstone is important. And finally the Dakota sandstone is a possible zone of -- potential zone of production.

Q. Of all these zones, Mr. Coryell, which are the most potentially productive, most important?

A. The most significant zones in this area would be the Pictured Cliffs for gas production and the Mancos Gallup interval, upper Mancos Gallup interval, which is -- has oil production.

Q. Now, next, marked Exhibit 3 through 11, Mr. Coryell, rather than interrupt you and slow you down with questions, could you just go through these *in seriam* and describe what they show, briefly?

A. Yeah, briefly what I've done here is map as many units as possible to show that there is potential reservoir on the acreage that we're after, and we can have a very good likelihood of stacked pays.

The first one is Pictured Cliffs sandstone, interpreted as a -- showing bar sandstone, progradational. It -- There's a relatively thick net sand in the Mallon 434 G Number 1 well in the northwest northwest of what would be Section 6 of 22 North, 4 West. And notice that the blank area is not platted here because it's a land-grant acreage.

The next up -- Excuse me, the criteria for mapping that sand in here, given the shaliness of the section and having mappable units that are related to production as much as possible, I used a gamma-ray cutoff where available of 75 API units or less, and where I had

density log it would be a 9-percent or greater porosity. In some cases, I was forced to use SP microlog qualitative assessments and then convert that to some sort of quantitative factor, normalized with the production -- or logs around it.

Q. Okay, what's the next zone?

A. The next zone -- I'll try and speed it up here a little bit. The next two maps, as a matter of fact, 4 and 5, are the Cliff House sandstone, and this is just an example of splitting out these units. And this is the kind of thing you might want to -- would do in the Menefee too, once we started drilling, is that taken as a whole the Cliff House is a broad sand, but if you break it into the upper and lower you can see that they -- one exists where the other isn't, basically. There's coal shale lateral to each of these units where they do not exist.

There's some overlap, but the lower looks like it's the best potential reservoir within the field area, within the acreage area.

The next exhibit, Number 6, I refer you to that, that is just a combined net sand map of the entire Menefee formation, a fluvial-deltaic-type system, so there is a high probability of many different isolated sands within this interval. So this is just a total net sand map, which shows that there is a high probability of getting sands on

the acreage.

The Point Lookout sandstone or the basal sandstone of the Mesaverde group is shown on Exhibit Number 7. And this map is not necessarily definitive except in the fact that it shows that there is a strong likelihood you're going to get a significant amount of Point Lookout sandstone developed on the property, especially on the -- it's turning -- As you go through these maps, you'll see that it seems that the western half of the property is -- it looks like it's higher quality than the eastern half. Or excuse me -- Yes, that's a correct statement.

Exhibit Number 8 is a map of the upper Mancos, and here I've mapped just gross sand, with the rationale that in the upper Mancos and Gallup interval you're looking more for just brittleness, more -- Sandier intervals, brittleness of formation, those tend to be the best probability of having production.

The Gallup interval shown in Exhibit 9 is the same situation. It shows the presence of sandy interval on the acreage.

And the Exhibit 10 is a map of the Semilla sandstone at the base of the Juana Lopez member of the Mancos shale. This is interpreted as an offshore bar. It appears that it's a fairly isolated feature, and it happens to net a high probability of having reservoir occur on the

property, and that's based on some production on the property.

The old Skelly well has produced 6000 barrels from Semilla. You can see that, right essentially in the center of the bar there. The Mallon Oil, just to the southeast of that well, the Mallon Oil Jicarilla 435 G-1, has produced 4000 barrels, and again in the northwest of 6, at the very northwest corner of the acreage, there has been production, apparently from the Semilla. It was perforated along with the Mancos Gallup in this area.

The very last exhibit is just simply -- It's a Dakota formation with environmental interpretation of a more fluvial component at the bottom, moving up to a more shore face at the top of the section.

There's been really not much done with the Dakota in this area, but -- and there's very little control on this map. This is just a map showing the potential for sand development in the Dakota, and it would be a -- In this area, you definitely want to drill through the Semilla sandstone and the Dakota, just a few hundred feet below. So we'd like to take a look at that and make sure, because it is productive elsewhere.

Q. Combined, Mr. Coryell, do these maps show that there are consistent mappable units for these various formations in this area?

A. Yes, given the control constraints, but yes, we can very definitely map a series of stacked pay, especially in the western part of the acreage.

Q. And you wouldn't want to drill here unless there wasn't the potential?

A. That's correct, because each unit by themselves is marginal.

Q. And Mr. Jones will get into the economics?

A. Yes.

Q. Were Exhibits 1 through 11 prepared by you or under your direction?

A. Yes, they were.

Q. And in your opinion is the granting of this Application in the interests of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: Mr. Examiner, I would move the admission of Exhibits 1 through 11.

EXAMINER STOGNER: Exhibits 1 through 11 will be admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. In this particular area, you show three wells. Those three wells, did they all penetrate your zones of interest?

A. The Skelly well in the center, the older well, penetrated all the way to the Morrison, so it penetrated all the way through. The two Mallon wells on either side penetrated through the Semilla sandstone, did not penetrate in the Dakota.

Q. I am to assume, though, that any wells in which Mallon drills subsequent to this date would go all the way down, test all those intervals?

A. We would want to test all the way and touch into the Morrison, yes.

Q. For the record, let's identify the location of your type log.

A. Oh, sure. It's in the southwest of the northeast of the northeast of Section 31. That's in 23 North, 4 West. It's unplatted, but it -- if I can refer you to Exhibit 3, the Pictured Cliffs sandstone --

Q. Okay.

A. -- it's the well that shows 175 million cubic feet produced from the Pictured Cliffs. Can you see that well there?

Q. Okay, I've got Exhibit Number 3 --

A. Okay.

Q. -- and you said 175 --

A. Yeah, it's --

Q. Okay, that's to the north, it's along the 20 --

the contour line marked 20?

A. Yes, it is.

Q. Just on the far upper reaches of this map?

A. Yes.

Q. Okay. That's the type log.

A. Yes, and that's an interesting well too, because they perforated quite a few zones, and I believe Ray Jones will speak of that.

Q. Any particular reason why you chose this log, as opposed to the old Skelly log?

A. Yes, the main reason is -- well, I wanted a Jurassic penetration, but the Skelly also did, but also I wanted a newer log. That's an old log.

Q. When you say "newer", this was in 197- -- The type log was drilled in what? 1975?

A. It was drilled in -- yes. Unfortunately, it's covered up by the contour. But yes, that's pretty close.

Q. Okay.

A. Also, this well was interesting because of the multiple perforations; multiple zones were looked at. That's another reason it was chosen.

Q. The -- Again, referring to the type log -- and I've marked down here where the Fruitland Coal would be --

A. Uh-huh.

Q. -- immediately above the sandstone, does this

pretty -- The interval that is shown for the coal -- looks like, oh, about 1980 feet --

A. Yeah.

Q. -- down to the top of the Pictured Cliffs, being about 2100 and something -- is that the main productive interval for the coal? Do you know? Would that represent the main productive interval?

A. It varies, and the coal itself -- this is a -- In my opinion, it's a highly secondary target, but it is a possible one. The coal -- Production from the coal does exist in many parts of the Basin.

Q. Well, how thick is the coal in this area?

A. Well, it's interbedded coals and shale in here, but right off the top of my head I'm going to say 300 feet, or 200 to 300 feet.

Q. So for the most part it shows the good part of the Fruitland Coal interval?

A. A portion -- yeah, the -- Yes, at least a third of it. I did not -- it's always been -- It wasn't something that was mappable, so I didn't really look at it, but it does produce elsewhere in the Basin. It can be productive.

Coalbed methane is becoming very important, and it makes it a possible interval that should be looked at and evaluated, and we will -- would run a mud log across it.

Q. Was there any Fruitland sand production in this area, in the broad -- and when I say "this area", the broad area of this -- of Exhibit Number 1?

A. In exploring for the Fruitland Coal, in the Fruitland interval, Fruitland formation, the methods have been more oriented towards trying to identify fracture patterns and that sort of thing in the coalbeds themselves. So...

And given the depositional environment, it's very difficult to map any particular facies within the formation.

Q. Okay. These maps were prepared --

A. -- by myself.

Q. I'm sorry, the structure maps that you -- was that all prepared from well log information?

A. Yes, yes.

Q. Okay. There's no seismic or anything?

A. No, there's no seismic. Yes. The structural -- The reason for the structure is to show it's fairly consistent down through the section. There's a slight rotation.

EXAMINER STOGNER: I have no other questions of this witness.

MR. BRUCE: Neither do I. I'd call Mr. Jones to the stand.

RAY E. JONES,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Jones, you just have the one exhibit, I believe?

A. Yes.

Q. Okay. A few introductory questions. If you'll look back at some of Mr. -- Here, I'll just give you one. Just looking at his Exhibit 3, a couple of introductory questions.

What is the main reason you're interested in doing this commingling in this area?

A. The wells are marginal or submarginal.

Q. And so you don't want to attempt single completions?

A. That is correct.

Q. Now, looking at Exhibit 3 for no other reason than the number of wells on Mallon's two leases, how many wells are holding those leases, in effect?

A. These two wells.

Q. The --

A. The Jicarilla 434 and the Jicarilla 435.

Q. Okay. Have you received any demands for further

development? Or has the BLM -- You know, have they stated any expression about whether or not further development should occur?

A. In 1988 there was a demand, and in 1989 the BLM agreed that it did not make sense to continue development on these leases and that they were adequately developed. There is --

Q. And that was based on the marginal economics?

A. That's correct. I'm sure there would be interest to date if something could be done in this area, but...

Q. Okay. Well, let's go over and discuss the wells in the area and your proposals. Could you identify your Exhibit 12 for the Examiner?

A. Exhibit 12 is a compilation of well information. Basically, it's the wells that are consistent with the mapped area that were shown.

The first page of the exhibit, it shows a well list, it has the operator, the well name, the well's location, spud date of the well, the TD of the well, TDs ranging from 2400 feet down to 6662, it looks like is the deepest.

The next column where it says "drill and open hole tested", that would be logged, cored or DST'd, and all wells were tested to some manner.

Next column is whether or not casing was set on

the well. If the well was produced, if the well was abandoned, the production zones from the well, and then the well's cumulative oil and gas production. And there are quite a few wells that have multiple zones producing from the well.

Twenty-two wells in the database, ten wells are producers, twelve wells are -- were drilled as dry holes or were cased, tested for an extremely short period of time and then abandoned.

Q. One thing I want to point out is, in case I missed it, most of these wells listed here are immediately to the north or to the west; is that correct?

A. That's correct. The majority of the database is to the north. There are only the three wells on our acreage, the two wells that we operate and then the old Skelly well, and then one well, I believe, to the west, in the northern part of our acreage. Other than that, all the wells are to the north. There's no immediate production I'm aware of, to the south or to the southeast, within the mapped area.

EXAMINER STOGNER: Okay, go ahead, Mr. Jones.

THE WITNESS: Of the ten producers we show on the table, six wells had multiple completions. So it's -- multiple completions have been important.

However, the recoveries have been very low. The

average recovery for all -- or for 15 wells where we do have recorded production is 14,000 barrels of oil per well, and 75,000 MCF of gas per well. Some of these are not on a straight average. They're certainly not good wells by any means.

On the next page, I simply included a list of the formations and hydrocarbon potential, and those with -- marked as good hydrocarbon potential would be zones that had produced, we thought should be good candidates for this area.

The other zones are certainly mappable into our acreage, would be potential zones, but in no case would they be considered primary targets. And in fact, at this time I don't believe you could consider any single zone a primary target in this area.

The next page shows a list of historical well activity, beginning with five wells drilled from 1951 to 1955, and then a break. Ten wells were drilled in the period from 1971 to 1980, and then tapering off to three in 1981-1985, and then two in 1986 to 1990, and then no wells currently. That's consistent with the results that people have not encountered, the marginal or submarginal wells with -- and I'm not aware of any current activity at this time in this area, and certainly not on our acreage.

One of the next items that was reviewed is

pressure information. This is a compilation of pressure information from DSTs or any available source where there's a shut-in pressure test. In reviewing the DSTs, if the DSTs had a very low pressure, which was consistent with the tight reservoir, it was not included in the list.

The DSTs are ranged, ranked by depth, and the pressure gradients range from approximately .3 to .434 for these zones. The only one that would even be considered slightly overpressured would be the Ojo Alamo, shown for reference, but it was not included in the zones that we're looking at, at this time. So we're not expecting any overpressured zones or anything out of the ordinary as far as pressure.

The next table lists the cumulative production again, for those wells with production. There are some estimated recoveries. I apologize for the size. It's getting late in the afternoon and a little difficult for me to read also.

The estimated ultimate recoveries in this case, what we did was, we developed a type curve, and actually the performance of the wells conforms with the expected theoretical performance of a hydraulically fractured well. All these zones are tight and shaly sands. They require hydraulic fracture treatments to produce. They theoretically will produce with a decline that will be a

straight line as the square root of time, or that is the equivalent to a hyperbolic decline with an N of 2 and an initial decline of about 72 percent per year.

So we use the well's initial rates and the type curves for these zones, and estimated ultimate oil and gas recoveries for these wells.

The next column is marked "PW 20". That was just our attempt to check the economics of these current wells and, given today's economic parameters, to see if the completion methods, intervals opened to date in these wells determined if we would consider them economic, and they're probably not. These are -- in this case.

And then there are just comments about different zones from the wells.

The PC wells had cums that range from 70,000 to 246,000 MCF. The better wells will have estimated ultimate recoveries of 170 to 284. And later on in the economics, we used an average ultimate recovery of 266 for the PC.

Gallup-Dakota wells, current cum is -- ranges from 17,000 to 39,000 barrels of oil, 35,000 to 96,000 MCF of gas, and we used estimated ultimates of 65,000 oil, barrels of oil, and 112,000 MCF of gas for our work.

The next group of pages is an economic -- The first page is an economic summary sheet. It's followed by an economic cash flow forecast. Three cases are prepared:

a commingled zone, a stand-alone Gallup, and a stand-alone PC, with each cash flow case. We've also included a decline curve showing the projections for oil and gas that were used.

For total well cost on a Pictured Cliffs flowing well, we used $250,000. That would be for a well that's drilled only through the Pictured Cliffs.

A Gallup well, we've used $450,000 to drill and complete the well.

And for a commingled PC-through-Gallup well, we've used $500,000 investment.

The incremental cost to complete multiple zones will not be great compared to a single deep zone. We've had success in multiple fracture treatments in one day, which has significantly reduced completion costs for multiple zones, and that is the approach that we would use in this area for this project.

For the type curve, then, for an average PC type curve, we have an initial rate of 11,000 MCF per month, declining at specified decline.

The Gallup begins at 2000 barrels per month and 3500 MCF of gas per month.

And that's just a summary of the sheets that are attached.

The cumulative present worth for a PC turned out

to be a negative $137,000. A Gallup well was positive, not by a great amount, $79,000, had a 15-percent rate of return. The Gallup-PC would be present worth of $265,000 for these economics and a rate of return of 25 percent.

Now, we would -- Included in the economics for the commingle, it's only the PC and the Gallup, but we would anticipate that there would be other zones to be included. Certainly even the Gallup-PC is not a fantastic return, and we -- I'd like to point out that these economics do not include any risk for dry holes on a daily basis. There are a significant number of dry holes, and that risk has not been included in these economics.

Q. (By Mr. Bruce) Mr. Jones, based on these economics, would Mallon Oil Company drill these wells if it can't commingle?

A. Not as single-zone producers, and our level of activity to date has shown that.

Q. Now, since there is little data on your acreage, how would you propose to allocate production from these wells?

A. I would simply propose to allocate gas based upon perforated intervals for the zones, from -- We're asking for a reference case; we're not sure what zones actually will be productive from well to well, and so I don't think you can establish one set of factors that would be

appropriate for every well that would also assign a certain amount of production to each zone.

Q. Now, certain of these zones are oil zones and certain are gas. What zones would you attribute oil production to?

A. Mesaverde and Gallup.

Q. Just those two zones?

A. Yes.

Q. In your opinion, is what you've just proposed a reasonable way to allocate production?

A. I believe so. I believe it's workable.

Q. Could you summarize the data that you've just gone over for the Examiner?

A. When we looked at the wells, it's -- all wells are producing from similar types of sands. They're tight, shaly sands. There's a variability in the production in the area, in the zones.

Multiple production intervals are important, as quite a few wells are already producing in that manner. However, even with the multiple zone, the wells are marginal or subeconomic. We have no overpressured zones that we're reviewing here.

Let me back up. Along with the marginal wells, there's also no current development, whether it's on our acreage or next to, adjoining our acreage, that we're aware

of for the last five or ten years, no overpressured zones.

There are common types of -- Similar types of reservoir require similar types of completions, similar production methods, and they'll have similar production lives. They will have a very low wellbore producing pressure. It will require a low wellbore producing pressure to produce.

And as we've shown in our economics, the type -- the average production rates that we used for the PC and Gallup production is typical of the better wells, not an average well recovery. And even for these better recoveries, the wells are going to be marginal, and on single zone -- on some zones it would be subeconomic.

So we feel like we need to produce as many zones as possible if we're to make a well that's economic and have a reasonable, sensible development in this area.

Q. In your opinion, is the granting of Mallon's Application in the interests of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, I believe so.

Q. And was Exhibit 12 prepared by you or under your direction?

A. It was.

MR. BRUCE: Mr. Examiner, I would move the

admission of Exhibit 12.

EXAMINER STOGNER: Exhibit 12 will be admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Jones, I'm assuming that these wells will be cased? I mean, if you were -- if this was approved?

A. Oh, yes.

Q. Okay.

A. Yes.

Q. So you're not proposing an open hole --

A. No.

Q. -- throughout the coal, all the way?

A. No, a cased well will be necessary for proper completion of the wells.

Q. How would spacing be affected with something like this?

A. With the different potential spacing units per zone?

Q. Yes. And I'm asking that from an engineering standpoint, not from a standpoint of land, because it's essentially all Jicarilla --

A. Right.

Q. -- so that's not a factor. But as far as drainage and that -- from that aspect of it.

A. The amount of -- or the recovery, the volume of recovery will be a function of the reservoir quality and of the type of completion. The wells have to be hydraulically fractured, you would expect a greater recovery from a more effective frac job, with a greater frac length.

I don't expect that you will be able to -- the reservoir quality is not such that I would expect for you to be able to show interference between wells and actually see the pressure interference from well to well.

So while you may have a 40-acre spacing area, I can't tell you that you would actually have -- or 160 --- I can't tell you would have a 40- or a 160-acre drainage pattern. It will be a function of the stimulation treatment, effectiveness, and the actual reservoir that's in contact with that treatment.

Q. Would you see that spacing will be maintained out there, if you -- I mean, the first well in this area, obviously, you could have potential to perforate it all and produce it all. But how about a second, third or fourth well, say, in a coal-seam-type of environment or a coal environment, where that is spaced on 320?

Would -- Are you proposing that that interval not be tested or not be perforated to maintain spacing and the integrity and that aspect of it? Or are you proposing that even if there was another producing well or two from the

coal, that any subsequent well would be perforated in that interval?

Am I making myself clear on that?

A. No, I understand the question. Within the interior of our lease -- Well, for any particular zone, if it was drilled at a greater density than what a normal spacing might be for these types of reservoirs, I don't see where recovery would be reduced in any way, with increased density.

I believe your question would be, what happens along the lease lines as it -- to offsetting acreage especially, and it affects the spacing.

Q. I mean, a co-interval out there is spaced on 320, and it's pretty well maintained, one well per 320, throughout the whole interval, and there really hasn't been any allowances at this point for denser spacing.

A. I don't see it as a problem in the development. If that spacing had to be maintained, we would want to allow that we could include it, because we think it is important to be able to get all productive intervals, as many as possible, in order to make the wells economic.

But if there was a well developed area in the coal, and if that spacing was a problem, then I don't -- I don't see a problem with having the additional development conform to that spacing. Obviously, if we found reservoir-

quality coal, we would certainly want to test that the first time that we encountered it, and then --

Q. I know that's probably beyond the scope of the case in which it's called for, because you're just essentially asking for downhole commingling. Such questions I'm asking would essentially also require an exception to existing field rules or perhaps a change of special pool rules, should they so apply, to increase the density. That's probably beyond the scope at this point, because this is relatively a nonproducing area.

A. Yes, sir.

Q. So it's such -- The Application, as I see it today, is to encourage --

A. -- development.

Q. -- development into this area. Then once development occurred, then those questions could then be addressed, and hopefully they will, should development --

A. I would hope so.

Q. Because this is a relatively old area, with not much -- well, I don't want to say "potential" of new development. But this would certainly help, to be able to -- and that's essentially what you're asking today?

A. Yes, we -- I don't feel that it's prudent to go develop our acreage, one -- for one reservoir, nor will it make additional economic sense to drill to a deep reservoir

and do one reservoir at a time and wait until that reservoir is depleted until you go to the next sum.

In order to pay for the cost of development, you need to be able to have -- you have to get all the -- have as high of a production rate as you can. All the zones are going to exhibit a very steep initial decline, and if you have a low initial rate you'll be hindered greatly in recouping your investment, because much of the reserves are long-life, low-rate, offset by operating costs.

Q. Now, as I understand the allocation that you're proposing at this point, it would essentially be based on perforations throughout that interval; is that correct?

A. That's correct.

Q. So would it be the percentage of perforations within the coal, within the Dakota, within the Morrison?

A. That's correct. I felt that would be more workable than trying to do reservoir quality off of logs or something like that.

Q. Should this Application be approved, future wells drilled into this area, of course, will be logged, I would assume?

A. Yes, sir.

Q. Are you proposing that -- or would you foresee that each perforated interval would be strongly looked at, or are you just going in there with a perforating gun or

preperforated string of casing?

A. No.

Q. Okay. Okay, that's not the intent?

A. No. The completion method would be very similar to one that we're using currently in southeast New Mexico, where we have multiple zones in one area that is produced together, a reasonable interval that's perforated, fracture-treated, then a plug is set of some sort, and the next interval is perforated and treated, and then you work up the hole, and we would be able to bring everything on and clean the well up.

But all the hydraulic -- or all the fracture treatments would be controlled.

Q. Of the existing wells that are cased out there, are they cased slim? I mean, with 5-1/2-inch casing or 5 or 4-1/2, or are they with the larger casing size that you see in a lot of San Juan Basin wells, up to 7-inch, or do you know?

A. I cannot speak for all wells. One of our wells is 4-1/2-inch.

Q. And is that -- Is 4-1/2-inch standard out there?

A. I don't know. I know there was one well where they tried 4-1/2-inch casing and 2-7/8 in order to add additional zones at once, and the operator wasn't going to repeat that process.

I'm not -- Nothing came to my attention that indicated that there was large-diameter casings, and certainly the --

Q. So that's not -- I guess what I was looking at was, a lot of the wells that had multiple completions back in the earlier days, or a few years ago even, ran 7-inch casing, so they could multiply complete and run two strings of tubing if it was necessary, especially the Mesaverde and Basin Dakota. Of course, that's probably not an issue in this instance. I was just wondering if running a slimmer hole of casing for economics' sake was an issue in this particular application.

A. Anything we can do to reduce well cost will be an issue. I mean, I've calculated a positive rate of return for an assumed good Dakota and PC, but for an economic project, we'll have to look closely at all cost savings. And there's certainly --

Q. Have you covered the pressure data or pressure information? I believe there are some pressure issues.

A. That was the DST --

Q. Okay.

A. -- table. It was mainly DST information.

MR. BRUCE: Page 4 of Exhibit 12, Mr. Examiner.

Q. (By Examiner Stogner) Were all intervals that you're proposing to commingle -- have they had some sort of

a pressure data? Because I don't see coal in here.

A. That's correct, coal is not in here. I have no pressure information for the coal.

Q. Was that because it just wasn't available or --

A. Correct, I'm not aware of any -- I'm not aware of any coal production in this specific area. Coal was included because we felt that it could be a potential, and it was sitting -- it would be sitting right next to the PC.

EXAMINER STOGNER: Anything further of this witness, Mr. Bruce?

MR. BRUCE: No, sir.

EXAMINER STOGNER: I have no other questions.

Mr. Bruce, I'm going to ask you to provide me a rough draft order in this instance.

MR. BRUCE: Okay, be glad to.

The final thing we have, and I don't know if we -- We have Mr. Stalcup's notice affidavit. If I could just have him introduce it, Mr. Examiner.

EXAMINER STOGNER: Okay, yes, please.

RANDY STALCUP,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Stalcup, just two things, really, looking at

-- It's something I said in my introduction, but I want you to verify it. Looking at Exhibit 1, am I correct that Sections 4, 5 and 6 are one Jicarilla tribal lease?

A. Yes.

Q. And there's common ownership throughout that lease?

A. Yes.

Q. There's no vertical severance?

A. Right.

Q. And then Sections 7, 8 and 9 are a separate Jicarilla tribal lease?

A. Yes.

Q. And once again, there is common ownership throughout that lease?

A. Correct.

Q. And you gave notice of this Application to all of the interest owners in those two leases?

A. Right.

Q. And your notice affidavit with the letters, et cetera, is submitted as Exhibit 13?

A. Yes.

Q. And Exhibit 13 was prepared by you or under your direction?

A. Yes.

MR. BRUCE: Mr. Examiner, I'd move the admission

of Exhibit 13.

EXAMINER STOGNER: Exhibit 13 will be admitted into evidence at this time.

Any questions?

MR. CARROLL: Yeah, I have a question.

EXAMINATION

BY MR. CARROLL:

Q. Has the Jicarilla tribe, the BLM or the BIA expressed any interest in this Application?

A. Not to date.

Q. And does the Jicarilla tribe have any oil and gas regulations that operators must comply with, besides the OCD? I know they have some environmental regulations.

MR. JONES: We have certain regulations that we follow. I'm not up on those regulations. Operations for these two wells is covered by our Carlsbad office.

To be quite honestly, these two wells, and with the economic activity that they bring to our company at this time, unfortunately don't receive a lot of attention.

MR. BRUCE: Yeah.

MR. JONES: So --

MR. BRUCE: Mr. Carroll -- Go ahead.

MR. JONES: So, I mean, we do have certain -- some procedures. There's a certain extra permitting just to be able to be on location or on their lease that we have

to have.

MR. BRUCE: Mr. Carroll, yes, the Jicarilla tribe does have a tribal -- I don't know if they call it an energy department or oil and gas department, and they do have regulations governing surface use, et cetera.

I do not know -- and I've spoken with Jicarilla personnel, Jicarilla tribal personnel -- I do not know of any regulations they have governing downhole commingling.

MR. CARROLL: Do they have their own production reporting department, or do they rely upon the State's report --

MR. BRUCE: I believe they have -- They have their own department, because they collect their own severance taxes et cetera, and -- I'm not sure; Mr. Stalcup might be able to answer who collects their royalties. But I know they do have their own accounting department that looks after severance taxes.

THE WITNESS: I don't know.

MR. BRUCE: Okay.

MR. CARROLL: I was just wondering if their own production reporting department, the figures might conflict with the State's, what's done in that circumstance.

MR. JONES: I'm not aware of any special production reports provided by our production clerk for these wells. I've never seen any.

MR. CARROLL: That's all I have. I was just curious.

EXAMINER STOGNER: I have nothing further in this case.

Do you have anything further, Mr. Bruce?

MR. BRUCE: No, sir.

EXAMINER STOGNER: If no one else has anything further, Case Number 11,697 will be taken under advisement, and I'll await your rough draft, Mr. Bruce, in this matter.

(Thereupon, these proceedings were concluded at 3:45 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11697, heard by me on 9 January 1992.

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 January 18th, 1997.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998