STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASES 10,604 and 10,606

EXAMINER HEARING

IN THE MATTER OF:

Application of Meridian Oil, Inc., for an unorthodox coal gas well location, San Juan County, New Mexico

Application of Meridian Oil, Inc., for an unorthodox coal gas well location, San Juan County, New Mexico

TRANSCRIPT OF PROCEEDINGS

ORIGINAL

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

November 19th, 1992

A P P E A R A N C E S

FOR THE DIVISION:

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I N D E X

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E X H I B I T S

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WHEREUPON, the following proceedings were had at 9:43 a.m.:

EXAMINER STOGNER: We're going to skip over 10,498 and call next case, Number 10,604.

MR. STOVALL: Application of Meridian Oil, Inc., for an unorthodox coal gas well location, San Juan County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin & Kellahin, appearing on behalf of the Applicant, Meridian Oil, Inc.

At this time, Mr. Examiner, we would like to consolidate for hearing purposes the subject case with Case 10,606.

EXAMINER STOGNER: Call, then, Case Number 10,606.

MR. STOVALL: Application of Meridian Oil, Inc., for an unorthodox coal gas well location, San Juan County, New Mexico.

EXAMINER STOGNER: Any appearances other than Mr. Kellahin for the Applicant?

MR. KELLAHIN: I have three witnesses to be sworn.

EXAMINER STOGNER: Will the witnesses please

stand?

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: You may proceed, Mr. Kellahin.

ALAN ALEXANDER,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Would you please state your name and occupation?

A. My name is Alan Alexander. I'm employed with Meridian Oil, Inc., in their Farmington, New Mexico, office as a senior land advisor.

Q. Mr. Alexander, on prior occasions have you qualified as an expert petroleum landman before the Oil Conservation Division?

A. Yes, sir, I have.

Q. Pursuant to your employment in that capacity by Meridian Oil, Inc., have you made a study of the ownership involved surrounding these spacing units and determined who the offsetting operators are to each of the subject wells?

A. Yes, sir, I have.

MR. KELLAHIN: We would tender Mr. Alexander

as an expert petroleum landman.

EXAMINER STOGNER: Mr. Alexander is so qualified.

Q. (By Mr. Kellahin) Mr. Alexander, let me turn to the exhibit book for Case 10,604 and have you turn to the information displayed behind Exhibit Tab Number 1 and identify that for the record.

A. That exhibit contains the Application of Meridian Oil, Inc., for an unorthodox well location for our Johnson Federal Number 280 well.

Attached to that application are exhibits that show the nine-section area and the offset operator plat, behind Exhibits A and B.

Q. Let's turn now to Exhibit Number 2 in that exhibit book and have you specifically identify and describe the information on that display.

A. Exhibit Number 2 is the offset operator plat, and it identifies the offset operators, being Meridian Oil, Inc.; Amoco Production Company; Conoco, Inc.; and Koch Exploration Company.

The companies are identified numerically in the square symbols offsetting the proposed drill block.

Q. Are you knowledgeable about the Basin Fruitland Coal Gas Pool rules?

A. Yes, sir, I am.

Q. Why is this particular well location an unorthodox well location under those pool rules?

A. This well is proposed to be located in the northwest quarter section, and that is an off-pattern dedicated quarter section; the pool rules provide for a northeast or a southwest dedication.

Q. Have you caused notification to be sent to the offsetting operators to this spacing unit?

A. Yes, sir, I have.

Q. And have you received any objection or protest from any of those operators?

A. No, sir, I have not.

Q. Let's now turn, sir, to the exhibit book for Case 10,606 and have you turn to Exhibit Number 1. Identify and describe that for me, please.

A. Exhibit Number 1 is the Application of Meridian Oil, Inc., for approval of an unorthodox gas well location for our Johnson Federal Number 270 well.

Attached to that Application are Exhibits A and B, being a nine-section land plat for Exhibit A and the offset operator plat being Exhibit B.

Q. Okay. Let's turn now to Exhibit 2 of that exhibit package and have you identify and describe that display.

A. Exhibit 2 is the offset operator plat, which

shows the offset operator owners to be Meridian Oil, Inc.; Albert M. Senter, Jr.; and Amoco Production Company.

Those operators are identified numerically in the square boxes offsetting the Johnson Federal Number 270 drill block.

Q. Describe for us why this proposed well location is an unorthodox well location for the Basin Fruitland Coal Gas Pool.

A. The pool rules again specify that the well should be located in the northeast or southwest quarter, and this well is proposed to be located in the northwest quarter of the Section 12.

Q. Have you received any objection or complaint from any of the offset operators to whom notice has been provided in this case?

A. No, sir, we have not.

MR. KELLAHIN: That concludes my examination of Mr. Alexander.

We move the introduction of Exhibits 1 and 2 in each of the two cases.

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

Any questions of Mr. Alexander?

MR. STOVALL: We do have a notice exhibit; is

that right?

MR. KELLAHIN: Yes, I have another one.

MR. STOVALL: Okay. That's it.

EXAMINER STOGNER: You may be excused, Mr. Alexander.

Mr. Kellahin?

MR. KELLAHIN: Jim?

JAMES D. FALCONI,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

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

A. My name is Jim Falconi. I'm a senior reservoir engineer for Meridian Oil in Farmington, New Mexico.

Q. Mr. Falconi, on prior occasions have you been qualified as an expert for the Division as a reservoir engineer?

A. Yes, I have.

Q. And pursuant to your employment by Meridian, have you made engineering studies of coal gas wells in the San Juan Basin that involve your company?

A. Yes, I have.

Q. Pursuant to that employment, have you made specific reservoir studies concerning these two applications?

A. Yes, I did.

MR. KELLAHIN: We would tender Mr. Falconi as an expert reservoir engineer.

EXAMINER STOGNER: Mr. Falconi is so qualified.

Q. (By Mr. Kellahin) Mr. Falconi, let me ask you to turn to Exhibit Number 6.

And Mr. Examiner, Exhibit 6 in each of the two exhibit packages will be the identical, same display.

If you'll turn to Exhibit 6 for me, Mr. Falconi, before we describe the specifics of Meridian's request, give us an orientation of the information on this display. What does it show?

A. Okay, the map that you're looking at as Exhibit 6 is a map of the general vicinity of the two wells that we're doing under Case 10,604, 10,606.

The green numbers on this map represent current producing rates, and these are as of October, 1992. Those are in MCF per day.

The small black numbers are the well numbers associated with those producing rates.

There is a letter C denoting wells which have a cased-hole completion versus an open-hole completion.

And there are red dots on the map indicating wells which were drilled to horizons deeper than the Fruitland Coal interval, and those wells took gas kicks while drilling the Fruitland Coal interval.

Q. For Case 10,606, it's the Johnson Federal 27 well and its companion replacement well, the 270?

A. That is correct.

Q. And that's going to be located over in Section 12 in the southeast corner of the display?

A. That's correct. That's Township 30 North, Range 9 West.

Q. All right. And Case 10,604 is the one up in the northwest corner of the display up in Section 33?

A. That's correct.

Q. And that is the well 280, which is a replacement for the Johnson Federal 28 well?

A. Number 28.

Q. All right. Before we discuss the specifics of those two wells, tell us first of all where in the coal gas pool are we located? Where is the general area of these wells?

A. These wells are located in the center part of the San Juan Basin, approximately 15 miles south of the

Colorado state line. They're in the center of the Basin Fruitland Coal Pool.

Q. The docket indicates they're approximately 14 miles east of Aztec?

A. That's correct.

Q. Give us some background as to what has been the chronology of exploration and development for the coal gas in this particular area, as shown on this display.

A. This area was developed in the Basin Fruitland Coal Pool from the late 1980s to the early 1990s.

Many of these wells were developed prior to the implementation of the Basin Fruitland Coal Pool rules. Some of the wells in that respect are currently nonstandard or off pattern.

The wells in this area were drilled and completed either cased-hole or open-hole, as the learning curve progressed, both by some of the offset operators, Amoco and Conoco and Meridian.

The wells that you see on here in general have not been done open-hole or recompleted open-hole, with experience going up the learning curve and understanding that open-hole completions in the area tend to be more efficient than cased-hole completions.

Q. After the initial series of development prior to the establishment of the pool rules, what happened after that? Once you've had the initial development, what did the operators do when they came back in and re-examined the status of those wells and their productivity?

A. They looked at the productivity of their wells in relation to offsetting producing wells and looked at methods that they could use to increase the productivity of their wells, and what they found were several instances of cased-hole completions in areas where open-hole completions seemed to be more efficient.

They went back into those wells. Amoco in particular did several wells in the vicinity of the two wells we have on hearing today. They sidetracked those wells, or redrilled the wells, and turned them into open-hole completions.

Q. Has there been a general pattern in this vicinity of having wells redrilled or sidetracked to new bottomhole locations to improve their productivity?

A. Yes, there has.

Q. Describe for us Meridian's program in this area in terms of improving the productivity of the wells in these drilling blocks or spacing units.

A. Meridian drilled all their wells in this vicinity using open-hole completion techniques. We acquired the two particular leases that we're reviewing today from Union Texas Petroleum approximately one year ago.

We reviewed these wells. They were cased-hole completions, and we looked at what we could do to increase the productivity from the wells.

Q. Let's turn specifically now to the Union Texas Federal 27 well in Section 12. Find the well location for us first of all.

A. Okay, the Union Texas Petroleum Johnson Federal Number 27 well is located in the southwest quarter of Section 12, Township 30 North, Range 9 West.

That well was drilled and completed by Union Texas Petroleum in -- I believe it was 1990 when that well was completed. That well was completed as a cased and fracture-stimulated Fruitland Coal wellbore.

Originally Union Texas Petroleum top-set the Fruitland Coal interval and attempted an open-hole completion in that well. After attempts were made to produce the well open-hole, they ran a liner in the well and cased and fracture-stimulated the well due to the low productivity, in an attempt to increase the production from the well.

Q. When you look at Section 12, the east half spacing unit is currently dedicated to a producing coal gas well?

A. The east half is dedicated to the Johnson Federal Number 24.

Q. What is the capacity of the Number 27 in the southwest quarter of 12 to produce?

A. The Number 27 well is currently shut in. Attempts to produce the well were unsuccessful. We were able to sustain production out of the well at about 30 MCF a day.

Q. What is your conclusion as to how to best replace that well in order to recover the hydrocarbons within the spacing unit?

A. What we propose to do is move the well off pattern to the northwest quarter of Section 12.

The reason we would like to move to the northwest quarter versus utilizing the existing wellbore or redrilling the existing wellbore is because attempts to produce the 27 indicate that the formation in that vicinity is extremely tight, there is low permeability. And by moving to the northwest quarter, we feel we'll get into an area of enhanced permeability as evidenced by the red dot there. That's the Johnson Federal Number 1A well, which took a gas kick while

drilling the Fruitland Coal interval.

In addition to that, there are several offsetting wells in the Fruitland Coal and wells which penetrated the Fruitland Coal, particularly Mesa Verde wells, that also took gas kicks while penetrating the Fruitland Coal interval.

Q. Describe for us the purpose of the dashed green line.

A. The dashed green line is a line that we drew in there indicating the wells north and east of that line have productivities of greater than 1000 MCF per day, or have the potential to produce at that rate.

Q. Why is that significant to you in terms of relocating a well in the west half of 12?

A. In order to produce the reserves under the west half of Section 12, we feel we have to get into the northwest quarter to compete with the production from the offsetting wells.

Q. Have you and the Meridian geologist examined all the available data to determine whether or not there is sufficient recoverable gas in the west half of 12 to justify a replacement well in the northwest quarter?

A. Yes, we have.

Q. And what is your conclusion?

A. Our conclusion is that the 27 well will not effectively drain the west half of Section 12. By replacing the Number 27 well with the 270, we feel we can protect ourself from offset drainage.

Q. Let's turn now to Section 33, have you first of all find us the Union Texas Federal 27 well in Section 33.

A. Yes, actually it's the Johnson Federal Number 28. The Johnson Federal Number 28 is located in the southwest quarter of Section 33, Township 31 North, Range 9 West.

That well, again, was drilled by Union Texas Petroleum and was -- they attempted an open-hole completion on that well and, due to the low productivity, ran a liner and cased and fracture-stimulated the well.

Q. What is its ability to produce?

A. That well is also currently shut in. A compression test on the well, first delivery of the well, the well initially produced at 1000 MCF per day for just a very short period and drew down very rapidly. It was able to sustain approximately 35 MCF per day.

Q. Summarize for us your conclusion about the best replacement location, then, for the 28 well.

A. Again, after reviewing all the evidence that we could gather for this lease and surrounding wells, what we conclude is that the 28 will not effectively drain the reserves associated with the west half of Section 33.

In order to effectively drain those reserves, we would like to move the well to the northwest quarter of Section 33 where we have evidence of enhanced permeability in the form of wells that penetrated the Fruitland Coal interval and took gas kicks while penetrating the Fruitland Coal interval.

Q. When you and the Meridian geologists examine all the available data, do you find there is justification to infer that a permeability transition occurs between the current location of 28 and the proposed replacement location for the 280 well?

A. Yes, and if you look at the map labeled Exhibit 7, you see that the wells to the left of the dashed green line --

Q. I'm sorry, that's Exhibit 6, I think.

A. Yeah, I'm sorry, Exhibit 6. To the west of the dashed green line, examining the wells to the west of that line, we did not find any wells that took a kick while drilling the Fruitland Coal interval, either wells that penetrated the Fruitland Coal and were going

to deeper horizons or existing Fruitland Coal wells.

However, to the east of that line you can see two wells in Section 33 which did take gas kicks while penetrating the Fruitland Coal interval. Those are specifically the Johnson Federal Number 2A, located in the northwest of Section 33, and also the Johnson Federal Number 4A, located in the southeast of Section 33.

Q. What is your recommendation with regards to both of the proposed unorthodox locations that are involved in these two cases?

A. Our recommendation is to move the wells into unorthodox locations to allow for efficient recovery of the reserves associated with those drill blocks.

Q. What will be done with the original well in each of those spacing units?

A. It's our intent at this point in time to turn those wells into pressure-observation wells to monitor the pressure in the Fruitland Coal interval and, at a later date, pending the successful completion of the replacement well to plug and abandon those wells.

MR. KELLAHIN: That concludes my examination of Mr. Falconi.

We move the introduction of Exhibit Number 6.

EXAMINER STOGNER: Exhibit Number 6 will be

admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Falconi, in looking at this map there, I show eight of these wells marked red, and --

A. Yes.

Q. -- those were, if I remember right, were gas kicks while drilling to a deeper horizon; is that correct?

A. That's correct.

Q. Are these the only eight other wells on these maps that penetrate deeper than the Fruitland Coal?

A. No, actually there are other wells. In order to keep the map a little cleaner -- There are numerous wells also in Sections 25, 26, 27, 34, 35, 36, that also penetrated the Fruitland Coal interval and did take gas kicks.

Q. Are there any wells deeper than that in Sections 30, 29, 32, 31, 6, 5?

A. No, there are no gas kicks to the --

Q. I didn't ask that.

A. Oh, excuse me.

Q. Are there any --

A. Yes, there are wells that are deeper that do penetrate the Fruitland Coal interval in Sections 29

and 30 and all other sections left of the dashed green line.

Q. Okay. Approximately how many wells on the west side of this line are there that penetrate deeper than the Fruitland Coal?

A. There would be at a minimum four Mesa Verde wells per section, and in all probability two to four Pictured Cliffs wells per section in addition to the Fruitland Coal wells that are there now.

Q. And that holds true to the east side of this line?

A. That is true for Mesa Verde wells. However, there are a minimum number of Pictured Cliff penetrations to the east of the dashed green line.

Q. All these wells, you were able to investigate for gas kicks?

A. Yes, if we owned an interest in them or had an interest in them in some years prior -- Some of those wells were originally drilled by El Paso Natural Gas Company. Meridian did have an interest in them at one time, and we do have some old maps available that mapped kicks in the Fruitland Coal interval. I was able to utilize that data also, going back to the 1970s or 1950s on some of the parent Mesa Verde wells.

Q. So let me make sure I get this straight. You

were able to look at all these wells in this map on Exhibit 6 that penetrate deeper than the horizon of the Fruitland Coal?

A. I was not able to look at every well that penetrated the Fruitland Coal, in that we didn't have an interest, Meridian does not own an interest in every well that penetrates the Fruitland Coal on this map. However, I did look at the vast majority of them.

Q. The vast majority, in both areas, east and west?

A. That's correct.

Q. Okay. How would you go about typically investigating one of these wells? Just for argument's sake, let's go up here to Section 26, that well marked Number 1. What did you investigate? What did you look for? What did the drilling log -- What are you looking for?

A. Okay, you're looking at Section 25 --

Q. I'm sorry, 28, up there in the north part, that red one marked Number 1.

A. Okay, what we looked for were the drilling records on the wells that penetrated the Fruitland Coal interval.

When the well penetrated the Fruitland Coal interval, if they were not using a heavy mud weight, if

they were drilling a head with water or a low mud weight, 8.5-pound-per-gallon, what I looked for is what happened in the drilling records when they penetrated the Fruitland Coal interval.

In many cases they drilled into the Fruitland Coal underbalanced, and they would take a gas kick. If that was the situation, that was recorded as a gas kick. If they were drilling overbalanced, we utilized that information to approximate a bottomhole pressure and infer what the pressure was in the Fruitland Coal interval.

Specifically, in the drilling records, we looked for indications of gas kicks which indicate to us that the coal is more permeable there than in the area where the interval was drilled with water and didn't take a gas kick.

Q. How would that be marked on the log, the driller's log?

A. It was normally just written in the tower reports that they took a gas kick in the Fruitland Coal interval, and what I did was looked at the depth that they were drilling at and tried to confirm that that was indeed in the Fruitland Coal interval.

We do have several wells in that area where a kick in the Fruitland Coal interval could have been

masked by the fact that they were drilling with a heavyweight mud, because they took a gas kick uphole or they encountered a water flow uphole.

That's particularly true down in the vicinity of the Johnson Federal Number 27, for instance. In that vicinity there's an area in there that we encounter water flows uphole at approximately 800 feet, and so they would mud the well up at that point in time and maintain that mud weight down through the Fruitland Coal interval.

Q. Who would be entering those -- that data in those driller's logs?

A. The driller on the drilling rig at that time, writing those in the tower reports.

Q. And some of these logs were how old?

A. They're from the 1950s through present.

Q. Are any of these eight on this map, were they from the 1950s?

A. Yes, particularly the -- Starting from the northwest going to the southeast, the first red dot in the southwest of Section 28, that would, in all probability, be from the 1950s.

The 2A and the 4A in Section 33 would be more modern, 1970s vintage, late 1970s, during the Mesa Verde infill program.

In Section 2 we have two red dots. I don't know about the one in the northwest quarter specifically, whether that was a modern or an old drilling record. However, in the southeast, the Number 2A, that would be a modern drilling record.

In Section 11, the 2A there would be a modern drilling record. The number 2 in the northeast would more than likely be a 1950s vintage drilling record.

In Section 12, the Number 1A was late 1970s vintage drilling records.

The 1950s drilling records appear to be pretty accurate in that, generally speaking, the rate of penetration was much slower than the 1970s vintage wells, and they were making bit trips maybe every 200 or 300 feet at times, and therefore right before they would penetrate the Fruitland Coal a lot of times they would stop and make a bit trip, and they would be drilling with a water or a light mud weight, and then drill ahead and penetrate the Fruitland Coal interval and take a gas kick and spend considerable time controlling that gas kick.

Q. When we talk about "gas kick" here in this exhibit --

A. Yes.

Q. -- did you look for a certain amount? Did

you put them in categories?

A. No, I did not. I categorized them basically -- categorized the wells basically on whether they did take a gas kick or did not take a gas kick.

In some of the older wells, again, 1950s vintage wells, it may have taken them anywhere from just a few hours to several days to control that gas kick.

However, in the 1970s, based on the experience that they had from much earlier penetrations, they would drill into it balanced or overbalanced, and if they did not, generally they could control the gas kick within just a few hours.

Q. Are some of these wells that were drilled in the 1950s on this particular map, showed some severity or some severe gas kicks that they had to control for several days?

A. Mike, I can't answer that off the top of my head, but my indications would be yes.

Q. Is there a Fruitland pool out here? I think what we had redesignated Fruitland sand pools in this particular area of this map?

A. I believe there's a Fruitland sand pool in this vicinity, in the Pump Canyon vicinity. The Ysidro Canyon, Fruitland Sand Pool.

Q. Okay. I don't know where that is on this map.

A. I don't have it outlined, and I don't know the specific boundary of that pool.

Q. And you said that these were El Paso wells?

A. Most of the penetrations in this area are El Paso wells, or wells that were subsequently turned over to Amoco.

Q. And when did this -- When did the Basin Fruitland Coal Gas Pool get discovered?

A. Basin Fruitland Gas Pool -- pool rules went into effect in, if I'm not mistaken, 1988, Basin Fruitland Coal.

Q. So I've got some wells out here drilling in the 1950s that it took a day or two to kill because it had a severe gas kick, at about what depth?

A. Approximately 3000 feet.

Q. About 3000 feet, and they were going somewhat deeper, but yet they didn't come back in and try to produce these things in the 1950s?

A. No, they didn't. Generally speaking, the water production and the CO_2 production associated with coal gas production did not make it economic for them. They had high-producing rates in the Mesa Verde formation. They preferred to go ahead and complete the

Mesa Verde interval.

Q. Okay. Now, looking at the green numbers, that's current production rate?

A. That's correct.

Q. Okay. So when I look at a number, looking at your key, 10,020, that's going to be a daily rate, a monthly rate, what kind of a rate?

A. That is a daily rate, MCF per day.

Q. Current -- I mean, if I walked out there on one of these wells today, this is what I would see? This is your last and --

A. That's the most recent data that I have on these wells.

Q. Okay.

A. It was October, 1992.

Q. Now, are all these Fruitland Coal gas wells shown on this map drilled about the same time, or do we have a trending of some of the older ones up to the north and east and getting younger down to the south and west?

A. No, all the wells in this general vicinity were drilled and completed approximately the same time. Some of them were re-entered and recompleted using open-hole completion techniques.

Q. Now, de-watering is a factor in the Fruitland

Coal Gas Pool as a rule; is that correct?

A. Yes, the Fruitland Coal production, generally you see rapid de-watering in the initial production of the well.

Q. And is it safe to say that that's also occurring in this area of Exhibit 6?

A. It's safe to say that that's occurring to the north and east of the dashed line.

Generally speaking, to the south and west of the dashed green line the wells have very low productivity of both gas and water. Normally to the southwest of the dashed green line they don't produce any water, or very low rates. And by "very low rates" I would say that's generally less than five barrels per day of water production.

To the northeast of the dashed green line, water production rates can be in excess of 500 barrels of water per day initially.

EXAMINER STOGNER: Any other questions of this witness?

MR. STOVALL: Yeah, just one.

EXAMINATION

BY MR. STOVALL:

Q. Am I correct that Meridian has had a similar application based upon a similar analysis in the recent

past, in the last month or so?

A. Yes, Meridian had an application approximately a month ago on the EPNG Com D Number 301. It was a similar situation to this Application. That well -- We turned in an application to drill a well off pattern --

Q. Has that been --

A. -- a similar situation.

Q. Oh, excuse me, has an order been approved on that one yet?

A. Yes, it has.

Q. I mean issued? And it authorized that well; is that correct?

A. That's correct.

Q. I assume the well has not yet been drilled.

A. The well has been drilled, I believe.

MR. JENNINGS: We're on top set.

THE WITNESS: We have not completed the well, however, we have drilled the well.

Q. (By Mr. Stovall) Okay. But I kind of remember you had that 1000-foot -- or 1000-MCF-a-day line in that one too, and -- based upon the same productivity and productivity analysis that you're using here.

A. Yes, it's a similar situation.

Q. Where is that well in relation to these?

A. That well is located, I'm guessing, approximately 12 miles to the southeast. It's located in the northwest of Section 36, Township 30 North, Range 8 West.

Q. So if you took that line on, it would tend to go southeast then, is what you're saying?

A. Yes, we've mapped this line from the extreme northwest part of the San Juan Basin up in Colorado down through the southeast part of the Basin, down to the 29-7 Township.

MR. STOVALL: That's all I have.

FURTHER EXAMINATION

BY EXAMINER STOGNER:

Q. In looking at the -- I have some other questions here, while you were asking those.

A. Okay.

Q. In Section 33 I show the green line snaking through from the north, and it goes between the two wells the Number 28 and 22, before it goes down into Section 4, in which it essentially splits Section 4 in half.

A. That's correct.

Q. Now, looking at Section 4, naturally you've got the 251 that has a 700 by it, and it looks like the

250 that has the 1970 by it. I assume the green line splits those because it falls in between there?

A. That's correct.

Q. Why did you snake this line up through Section 33 as you did?

A. The line is drawn in Section 33 to bisect where we have indications of enhanced permeability and the lack of enhanced permeability.

The well in the extreme northwest of Section 4, for instance, that's a current producing rate. That well initially produced at approximately 200 MCF per day for approximately two years. That well had no increase in production. It remained stable.

Within the last few months, three months, the production has increased on that well, and now it seems to be stabilized around 700 a day. We don't know why the production increased on that well. There was not an operational change on that well. The line is drawn there simply because it bisects the 700 and the approximately 2000 MCF a day.

Down in the southwest section of -- southwest quarter of Section 33, we have no indications of enhanced permeability by gas kicks in the Fruitland Coal interval. It appears that entire area down there is very tight.

EXAMINER STOGNER: Any other questions?

You may be excused at this time. I may have some additional ones, Mr. Kellahin.

THE WITNESS: Thank you.

MR. KELLAHIN: Mr. Stovall made reference to a prior Meridian application that is similar in concept to this one.

There is one other that the Commission has processed, and that's one for Amoco, and it's Case 10,593.

Those are the only two cases I'm aware of, Mr. Examiner, other than the present two you have under consideration, that address this type of replacement methodology for the Fruitland Coal wells.

I'd like to call Mr. Jennings at this time.

GREGORY L. JENNINGS,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

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

A. My name is Gregory L. Jennings. I'm a senior geologist with Meridian Oil, Inc., in the Farmington, New Mexico, office.

Q. Mr. Jennings, on prior occasions have you testified and qualified as an expert petroleum geologist?

A. Yes, I have.

Q. Have you worked with Mr. Falconi in analyzing the available data with regards to the two Applications that are before the Examiner today?

A. Yes, I have.

Q. Pursuant to that study, have you prepared certain geologic displays to illustrate your conclusions?

A. Yes.

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

EXAMINER STOGNER: Mr. Jennings is so qualified.

Q. (By Mr. Kellahin) Mr. Jennings, let me have you go with me through each of the exhibits that are remaining to be discussed in the exhibit book, just to give the Examiner an indication of what's available to review, and then you and I will go to the cross-sections and discuss in more detail the specifics of your work.

Let's start first of all with Exhibit Book 10,604 and turn to the display after Exhibit Number 3.

Simply a locator map in which the various wells that have penetrated any formation have been located on that display, have they not?

A. That's correct.

Q. Okay. Following that information, let's go to Exhibit 4 and look at the first geologic display. What is that, sir?

A. This is an isopach map of the total thickness for the Fruitland Coal.

Q. How have you generated this information?

A. Primarily with wireline logs from existing wells and mud logs from Fruitland Coal wells that we drilled and other operators drilled.

Q. Is this type of isopach map prepared by you and continued to update over time as one of your geologic tools in investigating coal gas wells?

A. Yes.

Q. It was not specifically prepared for this particular case?

A. No, it was not.

Q. What's the significance to you as a geologist of the isopaching of coal thickness?

A. Well, relative to this case, the primary thing to note is that the thickness does not change significantly. We do have variations from the

neighborhood of 45 feet to 65 feet total thickness, but the variations do not correlate with changes in production for the most part.

Thickness of coal -- While you would prefer to have thicker coal, thickness of coal is not the key to establishing good production.

Q. All right. For example, let's look at the arrow down in the southeastern portion of the display. That's the Section 12 spacing unit with the replacement well 270 in it?

EXAMINER STOGNER: What exhibit are you looking at, Mr. Kellahin?

MR. KELLAHIN: I'm looking at Exhibit Number 4, which is the isopach.

EXAMINER STOGNER: Okay, thank you.

Q. (By Mr. Kellahin) There's an arrow there next to the arrow on the left. It says JF 270, and then it points to the replacement location.

When you as a geologist are looking for geologic explanations to the various degrees of productivity of the coal gas wells, one of the components to examine is to see if there's a relationship of coal thickness that will give you a direct correlation by which you can explain the productivity of the wells, correct?

A. Correct.

Q. When you look in Section 12, what is the relative thickness of the coal between the original location of the 27 well as to the proposed replacement location for the 270?

A. It's almost identical, within five feet, the total thickness for the predicted coal at the Johnson Federal 270 location from the original wellbore, the Johnson Federal Number 27.

Q. When you compare the 27 location coal thickness to the coal thickness of those wells in the immediate vicinity that display a higher capacity to produce, do you see a material difference in thickness that explains that productivity change?

A. No, you do not.

Q. Okay. Let's go up to the 280 location in Section 33, which is also shown on this display.

What is the relative coal thickness between the current 28 well and the proposed replacement location for the 280?

A. Once again, it's almost identical, in the neighborhood of 50 to 55 feet thick. And basically no difference in thickness between the poor wells and the very prolific wells immediately to the northeast.

Q. In addition to those specific examples,

drawing your general knowledge of coal production, is coal thickness a key component that explains the variations in productivity of the coal gas wells?

A. No, it's not. It -- As I mentioned earlier, it's certainly important in the big picture, and you would rather be in a general area that has 70 feet of coal versus a general area that has 10 feet of coal, but local variations in production, coal thickness, appears to have basically no correlation with production.

The key is permeability and not thickness.

Q. Let's turn now to the information behind Exhibit Number 5, have you identify and describe the structure map.

A. Yes, this is a structure map on the base of the Fruitland Coal, and once again it runs -- The same general map area encompasses both of these locations. The contour interval is 20 feet.

And although you do see some minor wrinkles, basically what we have is regional dip to the northeast and no evidence of any faulting, no evidence of any structural enhancement that would explain the differences in production.

Q. Okay. Having examined coal thickness and structure and satisfying yourself that those don't

explain differences in productivity, what then do you do as a geologist to help answer that question?

A. Well, the coal reservoir is one of the more frustrating reservoirs that I've ever worked with, but basically our goal is to identify areas of higher permeability.

And we're fortunate in that we have a number of wells that have been completed in the coal in some of these areas that allow us to map good production trends, good permeability trends. And really our job, the engineer and myself, our job is to define areas of high permeability.

Q. How do you do that? How do you attempt to map a parameter that you can't directly measure in the traditional sense?

A. Well, the first thing I do is eliminate what is not happening. And in this case, and in almost all cases, you know, we've eliminated that changes in thickness are not explaining the poor production, structural changes are not enhancing or creating changes in the production.

These two cross-sections that we'll get to in a minute show that the coal zones are regionally continuous, and they -- Once again, that supports the fact that we don't have an abrupt change in reservoir.

We look at everything that we -- all the data that we can gather, sample descriptions from wellbores, gas content from wells that we drill, and wireline log response does not provide any clues in most cases.

It's really rather frustrating to have to admit that one of our best indicators is simply production rates and these kicks that we've honed in on in the drilling of the previous wells. Those two items, production and kicks in wells, have become two of our main tools in predicting those high-permeability areas, and we're placing a lot of emphasis on that, those two data types.

Q. Let me have you go to the first of the cross-sections, and let's talk about the information contained on the cross-section, and describe the continuity between the well to be replaced and then the wells on each side of the cross-section.

A. I might suggest that you all turn to Exhibit Number 6, which Mr. Falconi was talking from earlier, because that's where the lines of cross-section are shown. I apologize, I should have put them on the isopach and structure map, but it's really not necessary.

Let's start with the Number 280 well, which is on the northwest part of the map, and -- or the

proposed 280 well.

In the middle of the cross-section is the original number 28, which Union Texas drilled and attempted an open-hole completion and then subsequently logged and cased and frac'd. And we have a cased-hole neutron log here showing four major coal zones, and the line of cross-section -- the coal zones are marked in black, of course -- and the line of cross-section is southwest to northeast.

And we're going from an area to the southwest, where production is decreasing rapidly, to the northeast, where production is very high, in this case about 4 million a day.

And the main point here is that these four major coal packages are very continuous, very easy to correlate. And you don't see any differences between the good well and the poor well.

And essentially the same situation with the Johnson Federal Number 270.

Q. You're now looking at the second cross-section on the wall of the hearing room?

A. Yes, cross-section M to M', which runs through the southeastern part of the map, the proposed 270 location.

In the middle is the original Number 2 --

excuse me, Number 27 Johnson Federal well, drilled by Union Texas.

Once again, they tried an open-hole completion, didn't get a significant gas rate, logged it and cased it. This is also a compensated neutron log.

And you go to the southwest where we actually have an old Amoco coal well which is essentially nonproductive, same basic coal zones, move to the northeast about -- in this case a little over a mile away, to a well which is producing approximately 4 million a day.

And it's the same basic point. The coal zones are very continuous, thickness does not change significantly, log parameters do not change significantly. The difference in -- The big difference is in the production rates.

That's really all I have to say about those two cross-sections.

Q. All right. Why don't you return to your seat.

Mr. Falconi has examined the way the wells were drilled and completed. There is no mechanical explanation for the differences in productivity.

You've looked at all the available geologic

information, and from direct measurements there is no explanation to the difference in productivity, so that you then infer there must be a permeability explanation that would explain, then, the high-rate well in close proximity to a low-rate well where all the other values appear to be comparable?

A. That's correct.

MR. KELLAHIN: That concludes my examination of Mr. Jennings.

We would move the introduction of Exhibits 3, 4, 5 and 7 in each case. Exhibit 7 will be the cross-section. Each exhibit book will have a cross-section that applies to that particular case. So we would move at this time for the introduction of Exhibits 3, 4, 5 and 7.

MR. STOVALL: One question on 3. The second page of 3, is that just simply just the survey map showing the acres in each lot, or --

MR. KELLAHIN: It is, Mr. Stovall.

EXAMINER STOGNER: Exhibits 3, 4, 5 and 7 in each of these cases will be taken under -- I'm sorry, will be accepted at this time.

MR. STOVALL: Four and 5 are identical in both books; is that correct?

MR. KELLAHIN: That's correct.

THE WITNESS: Yes.

EXAMINER STOGNER: I have a question on permeability, but I don't know whether to ask your engineer or your geologist.

EXAMINATION

BY EXAMINER STOGNER:

Q. Since we don't have any mechanical explanation of this variance in permeability, is there a relationship in the drainage across this permeable, or variable, you might say --

MR. KELLAHIN: If you would like, let's put the question to both of them separately, and perhaps we can gain some information.

Q. (By Examiner Stogner) Okay, we'll give the geologist a shot at it.

A. Yeah, I think certainly a well that is a poor well will drain less areal extent than a good well.

Our difficulty is that, you know, we give you an exhibit and we draw a green line on here, and we're showing you basically where we want to drill and what our logic is. We don't really know exactly where that line snakes through there, and our job is to reduce risk, and so if we have a kick in one area that tells us that that location has a higher probability of encountering good production, our job is to recommend

drilling in that area.

These production variations are -- you know, the drainages which will result, are related to cleating in the coal and fracturing in the coal, and we have northeast trends, we have northwest trends, we have wells sometimes 200 feet, a hundred foot away from each other, that one is a poor well and one is a great well, and very difficult to predict exactly what the drainage patterns are, and the areal extent.

Basically, what we're trying to do is get a location drilled where we think we have the highest probability of success. And -- I'm not sure if that answers.

Q. Well, I appreciate your candor on that. I think you answered a lot of questions, actually.

And my concern with that is, if you look up there in Section 33, and with the development that is going on, we're seeing grouping of wells now.

You might argue that the well in -- the Number 22 well that's drilled as a standard location in 33, although it is cased-hole, there's still some potential there. After all, that is on the east side of the line, and there is some potential in that, either sidetrack -- But that's not within this proration unit; I understand that.

And then if you go down here in Section 12, now we're seeing the possibility of grouping four wells together, something that, if I remember right, in the inception of this particular pool, that's why that stipulation was put in for the northeast and the southwest quarter drilling locations.

Of course, keeping in mind, due to a lot of off-pattern wells being drilled out there, due to federal topographic requirements and constraints, I think we're entering into a new phase. And I believe that's why we're here today, starting this. Because it's more of a geology than a topography.

With your candor, I -- Are we seeing the mechanism here where -- This grouping of wells may or may not be affecting the other. It may be helping because of the dewatering. I've heard that too.

Of course, I'm rambling on here, not asking a question, but I think it needs to be on the record, anyway.

A. There is one --

Q. Mr. -- Okay.

A. If I just -- Before I forget about it, there is one issue regarding the surface location of the Number 270 well, which we haven't brought up yet, and we literally had to put that well at the 790-790

location for topographic reasons. We didn't have any other locations in the northwest corner.

And Mr. Falconi has a topographic map showing that, and I think he could explain to you how we ended up at that particular location, which may be of some value.

Q. I really don't think that's important, because after all it's unorthodox, and it's in a different quarter section, regardless if it was there or at that point, moved over 330 feet back to the east, or 340 feet, or whatever the case may be, to the south and west. I don't really think that's applicable in this particular matter, but --

EXAMINATION

BY MR. STOVALL:

Q. Let me ask another question kind of relating to that.

I think the concern that I'm hearing the Examiner express is that in a conventional reservoir, when you corner-shoot a bunch of wells, you start -- they're all draining the same gas.

And that is based, if I'm -- I'm kind of making a statement, and correct me if I'm right or wrong -- is that what permeability is, it is the connection of porous spaces which contain the gas. And

if you've got a fairly high permeability what you do is, you have all these pores connected and then go either correction.

Is that a relatively accurate statement with respect to conventional gas reservoirs? Or did you understand what I said?

A. Well, yeah, I understood it. And of course the big unknown --

Q. Well, I just -- Let me take it through my thinking, so I can get it.

Is that a relatively correct statement about conventional gas reservoirs?

A. Conventionally. What I was going to say was that the fracturing and the cleating patterns.

Q. Well, I -- See you're getting ahead of me. You're answering a question I haven't asked yet.

A. From a conventional, yes, matrix porosity and permeability is the key to -- if there is no natural fracturing, is the key to the --

Q. And so if you corner -- if you get some wells too close together, they're in effect using the same reservoir energy to get the same gas out?

A. Depending on what the preferential --

Q. Assuming there's connection there, assuming there's a --

A. Yeah, and the preferential directions of permeability.

Q. Now, in a -- If I understand correctly, in the gas pool here -- I mean in the coal pool, what is significant is not that the permeability connects the porous spaces which contain the gas, but rather the permeability is a series of little blocks of fractures in which there's space between blocks of coal, which allows the coal to actually -- or the gas to actually desorb from the coal; is that correct?

A. Right.

Q. So it's not a connection of the porous space where the gas is stored, but rather a connection of, when you release some pressure, it creates a space where the gas can come out of the coal itself.

Is that essentially correct, or --

A. Yes.

Q. -- am I getting into the engineer's question?

A. No, that's -- And we should bring Jim in to the discussion regarding drainage.

But yeah, that's essentially correct. I mean, the gas is stored in the matrix and in the cleat system, but the cleat system acts as a conduit to allow the gas to be desorbed from the matrix porosity in the coal.

Q. So again I will throw the question out, and then we may have to get the engineer input as well.

Does that mean that when wells are closer together that there may not be as much of a communication-type issue in there where you're -- again, given all the things that we talked about, drawing the same gas and the same energy from the same source?

A. Yes, I believe so, and in some cases you may have wells very near to each other that don't compete for the same reserves.

MR. STOVALL: I guess I would say at this point if -- Mr. Falconi, if you want to supplement or put the engineer's perspective on the same kind of questions asked.

MR. FALCONI: Well, yeah, I'll mirror what Greg said about our charge and what we researched.

We did some pretty extensive research this summer into this issue. We had a summer hire that performed a study in this vicinity. He was charged with performing a study of the area of enhanced permeability, lack of permeability and production of the Fruitland Coal from the Colorado state line essentially down to our 29-7 unit.

We looked at numerous parameters. We looked

at coal thickness, we looked at drilling records, indications of permeability, we looked at gas content, we looked at CO_2 content in the coal, pressure in the coal, numerous parameters.

And basically what it gets down to is the production parameter, both gas and water, and the permeability parameter, indications of permeability or lack of indications of permeability. We looked at numerous drilling records, too many for me to remember.

But getting into the issue of drainage and clustering wells into an off-pattern location, what we did, we tried to minimize the risk in drilling Section 12. Let's talk about the west half of Section 12 first, the Johnson Federal 270.

We tried to minimize the risk. We made every attempt that we could to utilize the 27 wellbore for economic reasons, and all our indications are -- That well in particular is offset by two Mesa Verde wells, the Johnson Federal Number 1, the parent well, and the Johnson Federal Number 1X, which was drilled sometime later as a Mesa Verde replacement for the parent well.

MR. KELLAHIN: Let me stop you right there, Mr. Falconi. When you look at the 27 well's ability to develop the gas reserves in its spacing unit and to protect itself from competition by the offsetting

wells, can it do so?

MR. FALCONI: No, it cannot. The well has very limited production potential.

MR. KELLAHIN: Do you try to analyze an area in terms of parameters that will give you a range of original gas in place in the coal per spacing unit?

MR. FALCONI: Yes, we do.

MR. KELLAHIN: Have you made that analysis in this area to determine whether the west half of Section 12 has original gas in place that will justify it being produced from a well on that spacing unit?

MR. FALCONI: Yes, we have looked at that, and the Number 27 will recover essentially no gas from the west half of Section 12.

MR. KELLAHIN: West half of Section 12, though, has gas in place that would justify a well?

MR. FALCONI: Yes, it does.

MR. KELLAHIN: Do you have a general range of --

MR. FALCONI: We've calculated numbers, approximately 25 BCF of gas reserves for the west half of Section 12.

MR. KELLAHIN: If a well is not permitted to be drilled in the northwest quarter, what happens to those gas reserves for the owners in the west-half

drilling block?

MR. FALCONI: It's our indication that those reserves will not be produced at all or may be drained by the offsetting wells in Section 11, 2 and 1.

MR. KELLAHIN: Unlike a conventional sandstone gas reservoir, are there sufficient data points and information available to specifically quantify the radius or the area of drainage for the coal gas wells?

MR. FALCONI: Well, coal gas drainage, as Greg alluded to, is influenced by numerous parameters: fracturing, enhanced permeability. I don't think there's adequate data to assess a drainage radius for those wells.

MR. KELLAHIN: If you put a well, as you propose to for the 270 location --

MR. FALCONI: Yes.

MR. KELLAHIN: -- and that well is productive, and it will be competing with the existing three offsetting well locations, can you tell us as a reservoir engineer, where is the likely no-flow boundary that exists between the 270 well and the offsetting wells?

MR. FALCONI: The likely no-flow boundary will be somewhere in between the two wells,

approximately halfway between the wells if they're producing at similar rates.

MR. KELLAHIN: In this area, then, a well in the northwest quarter is not going to be positioned so that it will capture reserves off of the offsetting spacing units?

MR. FALCONI: No, we don't feel it will capture any reserves from the offsetting spacing units.

We feel it will be developing the reserves in Section 12, the west half of Section 12, and protecting that acreage, being approved, protecting that acreage from offset drainage if it does occur, without the development of the Number 270.

MR. KELLAHIN: That completes my line of questioning, Mr. Stogner, on that issue.

EXAMINER STOGNER: That particular issue holds true down in the southern part, but not in the northern part, because you're drilling off-pattern, although the other well was drilled off-pattern, the very good one, but the Number 22 is not producing.

So you'd be essentially draining, according to that analogy, Mr. Kellahin, you would be draining the south and west acreage of 28.

MR. FALCONI: I might state that we have reviewed the Number 22, the completion technique on

that, and we are in the process of redrilling the Number 22 as an open-hole completion.

MR. JENNINGS: Southeast of the northeast.

MR. FALCONI: Yes, the Number 22 well, the replacement well, the Number 22R Johnson Federal, would be located in the southeast of the northeast of Section 33, 31 North, Range 9 West.

EXAMINER STOGNER: What I'm looking at here today is what's coming up besides just approving of two wells. I see many things here: Infill drilling coming up, I see perhaps lessening the requirements and maybe doing away with the necessity of coming to a hearing. Maybe the rules are broad enough where if you had a well down at a standard location and it's depleted, replace it with one up in the -- up in the other quarter section without coming to hearing. That's a possibility.

Last two or three years, there's been a lot of applications coming up, recompletion uphole. Now, those wells are naturally cased-hole completions, and each and every one of them, a parameter -- one of the parameters being, if you're recompleting a Pictured Cliffs well off pattern and there's possible recompletion of another Pictured Cliffs well on pattern, it required explanations to get away from

this.

Now we're opening up a whole new ballgame here where drainage is becoming an issue. Not that those weren't the other issues, but at least they were touched upon. But now we'll hit it head on here.

And since, according to the testimony today on geology, if we can't put our fingers on the geology, then what else do we have to go by?

Mr. Kellahin, Mr. Stovall, any thoughts? Any questions?

MR. KELLAHIN: Well, I think the basic framework of the 320 gas spacing has worked for a tremendously wide area of the Basin and has proved to be a useful vehicle in a procedure to encourage development of the pool, and that's occurred.

This is an area that there were a number of grandfathered wells, some of which were off pattern, that occurred in an area. The operators have drilled the first well under the current rules on pattern, where that occurs, and they're now seeking replacement opportunities. I think this is an area that's gone into the next step of exploration and development.

But the fundamental considerations are prevention of waste and protection of correlative rights.

The correlative-rights issue here is not at risk in any of the two cases. All the offsetting operators have waived objection. The correlative rights of the interest owners in the drill block need to be protected so that they can have a share of production of the coal gas. Without the replacement wells, their gas is either not going to be produced or may potentially be drained by offsets.

Come down to a waste argument, and the testimony is that these are necessary wells within the risk of this company to drill as replacement to capture gas reserves that they might not otherwise get. And I think on a case-by-case basis these are appropriate exceptions. And if a number of case-by-case exceptions then become the rule, that's okay too, because you would address each one in specific detail in this hearing process.

I think this is a full review of these cases. We pass judgment and allow wells at off-pattern locations for far less information, topographical excuses, recompletion of an existing well back up into the coal.

There's lots of things that have occurred to create off-pattern exceptions, and here's one that has as much information as any of them. And I think

they're justified.

MR. STOVALL: Let me ask a question on that. My recollection from your previous cases on this was that this is somewhere in the area of the transition from Area 1 to Area 2 as defined by the Coalbed Methane Study Committee report; is that correct?

MR. JENNINGS: Yes.

MR. STOVALL: I'm not saying exactly. You know, I don't think that line is exact anyway. I --

MR. JENNINGS: Yes.

MR. STOVALL: -- think a geologist would...

Do you know how many more -- whichever one of you might know -- wells Meridian is looking at in this transition area? Do you have --

MR. JENNINGS: Yes.

MR. STOVALL: I mean, do you have any specifically that you're looking at, at the moment? I guess that's a better way to ask that question.

MR. JENNINGS: I do have a pretty good feel for that, because like Jim said, we've been working on that all summer. And by and large, you've got two wells per section across this transition area, and I think all of the operators are looking at, you know, those wells that were unsuccessful the first time around and where they might be able to drill another

well to recover the reserves from their spacing unit.

We have a program that we're now starting to drill, and these wells are planned as a later part of that program, of about a dozen wells or so, scheduled for the end of the year, and basically we look at all the information and we try to figure out where we can drill those wells and make a commercial well and recover our reserves and protect our correlative rights and those other working-interest owners in the drill block.

I'd say the majority of those do not require off-pattern moves. I think out of our dozen we've got -- the one that we came to a month ago, the EP&GD 301, and then these two, so that makes three. So out of our dozen we've found a few that need to be moved to an off-pattern location to get into an area where we think we'll make a commercial well.

As far as the number we're looking at, at the end of this year we'll probably end up drilling about a dozen or so and maybe have a handful more that we could continue to pursue in the following years. Certainly not hundreds, by any means. I think that -- It's a relatively small number in the big picture.

Does that help?

MR. STOVALL: Yeah, that -- I mean that -- I

guess the reason I was asking the question was in the context of, are we going to see more of these, you know, off-pattern trying to kind of follow this line, and do you have -- are you finding out if you're right in your analysis?

And, you know, at this point if you're drilling a dozen or so and they're going to get done by the end of the year and you want to get those for the tax credit, and if these get done, you come back and look and see if your best geologic guess is pretty good or not. I guess --

MR. JENNINGS: We do have some more that we are evaluating, and we'll certainly, I'm sure, be back before the Commission for some additional wells before it's all over with, but not a large number.

MR. STOVALL: At that time you'd be prepared to come back and say what has happened on those that you have drilled, based upon your geological and engineering analysis that you need to move above this transition line, move into the high-production area above the transition line; is that correct? You'll provide the information that says --

MR. JENNINGS: Yes, yes.

MR. STOVALL: -- we -- this is what we thought we had to do, we did it, and it worked or

didn't work or --

MR. JENNINGS: And I imagine that -- We view this program as fairly risky. We fully expect that some of these wells that we're drilling will be unsuccessful.

But our hope is that if we drill a half dozen, that enough of those wells will be commercial to pay for the overall program, and definitely we will share that data with you, and I'm anxious to see myself, you know.

Jim and I are making the recommendations, and we'll be very aware of the facts, and as we get that data we'll be happy to share it with you and...

MR. STOVALL: How inconvenient of nature not to make geological boundaries follow section lines. That was poor planning.

EXAMINER STOGNER: Anything further on either one of these cases, 10,604, 10,606?

MR. KELLAHIN: The introduction of the certificate of mailing, Mr. Examiner. It's marked as Exhibit 8 in each of the two cases.

This is the certificate in Case 10,604, and if you'll allow me at the break, I will mark the one for the other one.

EXAMINER STOGNER: Does anybody else have

anything further in either Case 10,606 or 10,604?

In that case, both of these cases will be taken under advisement.

(Thereupon, these proceedings were concluded at 10:58 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10604 and 10606 heard by me on 19 Nov 1992.

Michael E. Stogner, 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 November 24th, 1992.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994