BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
JUNE 8, 1995

COMMISSION HEARING

IN THE MATTER OF:

Case No. 10280 being reopened pursuant to the provisions of Division Order Nos. R-9594 and R-9594-A, which order promulgated temporary special rules and regulations for the Milnesand-Abo Pool in Lea and Roosevelt Counties, New Mexico.

CASE 10280
(DE NOVO)

BEFORE: William J. LeMay, Director

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Carol Leach
Legal Counsel for the Commission
2040 S. Pacheco
Santa Fe, New Mexico

MR. LEMAY: The hearing will come to order. Call now De Novo Case No. 10280.

MS. LEACH: Case No. 10280, being reopened pursuant to the provisions of Division Order Nos. R-9594 and R-9594-A, which order promulgated temporary special rules and regulations for the Milnesand-Abo Pool in Lea and Roosevelt Counties, New Mexico, to be heard De Novo upon the application of Petroleum Production Management, Inc. The De Novo applicant has requested that this case be continued to the Commission hearing scheduled in July.

MR. LEMAY: Case 10280 De Novo is hereby continued to the Commission hearing scheduled for July 6, 1995. The hearing is adjourned.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
JULY 6, 1995

COMMISSION HEARING

IN THE MATTER OF:

Case No. 10280 being reopened pursuant to the provisions of Division Order Nos. R-9594 and R-9594-A, which orders promulgated temporary special rules and regulations for the Milnesand-Abo Pool in Lea and Roosevelt Counties, New Mexico.	CASE 10280 (DE NOVO)

BEFORE: William J. LeMay, Director

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Carol Leach
Legal Counsel for the Commission
2040 S. Pacheco
Santa Fe, New Mexico

MR. LEMAY: Call next De Novo Case No. 10280.

MS. LEACH: Case No. 10280, being reopened pursuant to the provisions of Division Orders Nos. R-9594 and R-9594-A, which orders promulgated temporary special rules and regulations for the Milnesand-Abo Pool in Lea and Roosevelt Counties, New Mexico, to be heard De Novo upon the application of Petroleum Production Management, Inc. The De Novo applicant has requested that this case be continued to the Commission hearing scheduled for August.

MR. LEMAY: De Novo Case 10280 is hereby continued to the Commission hearing scheduled for August 3, 1995. The hearing is adjourned.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION COMMISSION

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IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF CONSIDERING:	)	CASE NO. 10,280
CASE NO. 10,280 (REOPENED)	)	

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COMMISSION HEARING

ORIGINAL

BEFORE: WILLIAM J. LEMAY, CHAIRMAN
WILLIAM WEISS, COMMISSIONER
JAMI BAILEY, COMMISSIONER

August 3rd, 1995

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Commission on Thursday, August 3rd, 1995, 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

August 3rd, 1995
Commission Hearing
CASE NO. 10,280

* * *

E X H I B I T S

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A P P E A R A N C E S

FOR THE COMMISSION:

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FOR PETROLEUM PRODUCTION MANAGEMENT, INC.:

CAMPBELL, CARR & BERGE, P.A.
Suite 1 - 110 N. Guadalupe
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 3:28 p.m.:

CHAIRMAN LEMAY: We shall now call Case Number 10,280, which is being re-opened pursuant to the provisions of Division Order Number R-9594 and R-9594-A, dealing temporary rules and regulations for the Milnesand-Abo Pool.

Appearances in Case Number 10,280?

MR. CARR: May it please the Examiner -- the Commission -- my name is William F. Carr with the Santa Fe law firm Campbell, Carr and Berge.

We represent in this matter Petroleum Production Management, Inc., and I have one witness.

CHAIRMAN LEMAY: Yes, would that witness stand and raise his right hand to be sworn in?

(Thereupon, the witness was sworn.)

CHAIRMAN LEMAY: Please continue, Mr. Lawyer, or -- This Examiner is listening.

GLEN C. LUFF,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. I'm Glen Luff.

Q. And where do you reside?

A. I live in Midland, Texas.

Q. Mr. Luff, by whom are you employed?

A. I'm self-employed. In the matter of this case, though, I'm a consultant for Petroleum Production Management, Incorporated.

Q. And in what field are you consulting?

A. Geology, petroleum geology.

Q. Mr. Luff, have you previously testified before the Oil Conservation Commission?

A. No.

Q. You have testified before the Division?

A. Yes.

Q. Could you review your educational background, please?

A. I attended the University of Oklahoma, received a bachelor of science degree in geology in 1951 and a master of science degree in 1957.

Q. And since that time, have you on all occasions been employed as a petroleum geologist?

A. Yes.

Q. Could you summarize your work experience for the Commission?

A. I have 22 years with Arco; two years with A.G. Hill, an independent; with Ammon Oil, USA; and Coastal Oil and Gas. And since 1988 I've been a consultant.

Q. Are you familiar with the Milnesand-Abo Pool?

A. Yes, I am.

Q. And for how long have you been involved with the development of this pool?

A. Since around 1989.

Q. You've been involved, actually, with the drilling of certain wells in the pool?

A. Yes, I watched two wells that PPMI drilled in that field.

Q. Are you familiar with the Application filed in this case for PPMI?

A. Yes, I am.

Q. Have you made a geological study of the pool?

A. Yes, I have.

Q. And are you familiar with the wells currently producing from this pool and their current ability to produce?

A. Yes, I am.

Q. Have you prepared exhibits for presentation to the Commission in this matter?

A. Yes.

MR. CARR: We tender Mr. Luff as an expert witness in petroleum geology.

CHAIRMAN LEMAY: His qualifications are acceptable.

Q. (By Mr. Carr) Mr. Luff, would you briefly state what Petroleum Production Management, Inc., seeks in this case?

A. We seek adoption of the special rules for the Milnesand-Abo Pool, including the 80-acre spacing, provision for 80-acre spacing, on a permanent basis.

Q. I think initially it would be helpful, Mr. Luff, if you would review for the Commission the history of this particular case.

A. The case was originally filed by Knox Industries in 19- -- in September of 1991, and it was to be -- Temporary rules were adopted, then, by Order R-9594, on October 10th, 1991. It allowed for 80-acre spacing, wells to be located within 105 feet of the center of the quarter-quarter section, and to be reopened again in September, 1993.

Prior to -- Briefly, prior to the hearing, Knox declined to continue that case, and PPMI then said they would present the data. The purpose was to show that 80-acre units can be efficiently and economically drained by one well.

Q. And that was what the Division stated as the reason for re-opening the case in September of 1993; is that not correct?

A. That's true.

Q. Now, what happened? Was the case reopened in 1993?

A. Yes, it was, and basically we came to an understanding to continue the temporary rules for another year.

Q. And was that again to allow the operators to attempt to accumulate additional data on the pool?

A. Yes, it was.

Q. Between the adoption of the original rules and this continuation for an additional year, had there really been any additional development in the pool?

A. There was one well drilled, a dry hole, on the south edge of the field.

Q. And then finally, when was this case last reopened at a Division level?

A. On January 19th, 1995.

Q. And what happened at that time?

A. PPMI presented engineering data sent by facsimile and hard copy before the hearing in January, and it requested the permanent rules for 80-acre spacing, but the Order was issued denying permanent rules.

Q. At that January hearing, there was no live testimony presented to the Examiner?

A. No.

Q. And following the denial -- or with the denial, a

letter was received suggesting that the case be perhaps reviewed by the Commission; is that correct?

A. That's true.

Q. And it was at that time that PPMI sought this *de novo* hearing?

A. That's true.

Q. All right. Let's go to what has been marked for identification as Petroleum Production Management, Inc., Exhibit Number 1. Can you identify that and review it for the Commission, please?

A. Exhibit Number 1 is a map of the northwest shelf of the Tatum Basin, and this is a Midland Map Company production map of the area. I have marked with red dots and numbers all of the fields that are producing from this particular horizon.

Q. So we've got all the Abo fields in the area?

A. These are all the Abo fields that produce in this similar situation on the northwest shelf.

Q. Okay, let's refer to Exhibit 2 in conjunction with Exhibit 1, and I'd ask you to review the information on this second exhibit.

A. Yes, on Exhibit 2, the fields are listed alphabetically and by number, and those numbers apply to the numbers I have on Exhibit 1.

I've listed the number of wells that were drilled

in each field, the ones that are active and those that have been shut in or abandoned.

And, from the Hobbs District Office records, the current spacing, I took from their records, and it shows, some are 40-acre spacing or statewide rules, and some are under 80-acre spacing.

Listed below are the fields -- production from the fields themselves, by fields, in oil and gas and water production.

Q. What is Exhibit Number 3?

A. Number 3 is actually a blowup of the field production, but lists the wells, the individual wells in each field.

Q. Okay.

A. And this is as of the 1993 production, which is the most current that I could get.

Q. Let's go now to Exhibit Number 4. Could you identify this for the Commission?

A. Exhibit 4 is the south line of the Milnesand-Abo Pool, listing the pool boundary. The change that has been made since it was submitted in October of 1993 is the addition of the north half of Section 4 of Township 9 South, 35 East.

Q. And that was as the result of the PPMI well drilled in the northwest quarter of Section 4?

A. That's true.

Q. Okay. Let's leave this before us and move on to Exhibit Number 5, the isopach structure map, and I'd ask you to refer to these exhibits, 4 and 5, and basically review the history of the development of the pool and then the structural information on Exhibit 5.

A. The map, as shown here, is actually a map of two horizons -- or two data items. One is a structure map, and then the other is an isopach of the porosity with a nine-percent neutron porosity cutoff.

The pool outline is also shown in yellow, and the field was initially discovered by the well in the northeast-northeast of Section 33. That's the Williamson Number 2 Mobil Federal. It was drilled to the Bough C and then plugged back to the Abo in 1965, producing 5600 barrels, but plugged and abandoned in 1967.

In August of 1990, PPMI drilled the Number 3, which is located in the southwest quarter of Section 34, and they basically rediscovered the pool.

In October of 1990, they drilled the -- I'm sorry, in October of 1990 Purvis, and then they turned the well to Knox -- I'm sorry, I'm getting this mixed up.

In October of 1990 -- I'll go back again -- PPMI drilled the Number 3 C, which was in the southeast quarter of Section 34, and they completed that also in the Abo, but

they did drill the well to the Bough C.

A month later, Purvis and Knox took the well over, drilled the well in the northwest quarter of Section 3. I think we've got a typo error there.

Q. Now, BTA has drilled one well in the pool also, have they not?

A. Yes, since shortly before the hearing, BTA drilled a well in the southeast quarter of Section 33, and it is also completed in the Abo.

Q. And the BTA well was drilled prior to the original hearing when temporary rules were promulgated?

A. That's true.

Q. All right. Now, since that time, can you identify the wells that have been drilled?

A. Purvis drilled a well in the southwest quarter of Section 3 to the south, which resulted in a dryhole. That was done in March of 1994.

And them PPMI re-entered or plugged back the Star well in the northwest quarter of Section 4, and that is completed in the Abo.

Q. And so the wells you have reviewed are all the wells that have been drilled and completed in this pool?

A. Yes.

Q. Okay.

A. On that particular plat, on Exhibit 5, the wells

that are producing out of the Abo are indicated in blue, and the wells in the -- still in the Bough C formation are in the purple.

Q. All right. Could you describe the structure for the Commission, please?

A. It's a monoclinal feature with some flattening and possibly very slight closure in the south portion of Section 34. If you go to probably two-foot contouring, you might see that.

Q. And this Exhibit Number 5 also contains a trace for a subsequent cross-section?

A. Yes, which will follow.

Q. Okay, let's move to Exhibit Number 6. Could you identify that, please?

A. Exhibit 6 is a land plat showing the ownership in that area. The BTA shown in blue, Knox acreage is shown in orange, PPMI is in rose color, Purvis acreage is in purple, and Yates has acreage in yellow. And this is strictly for the Abo rights, since there is horizontal segregation of these leases.

Q. Let's go now to cross-section Exhibit Number 7, the four-well cross-section.

A. This cross-section -- Excuse me.

Q. Go ahead.

A. This cross-section was prepared in 1993, and it's

the same that I presented at that time, except for the addition of showing greater than nine-percent neutron porosity.

And as you can see, the zone is continuous in all of the wells, although there are slight variations in the better zones of porosity.

Q. Basically, what you have is thin bedded porous streaks across the interval; is that correct?

A. That's true.

Q. And they appear to be fairly continuous across this pool?

A. That's right.

Q. Now, let's go to the next cross-section. Can you explain the difference between this and the one previously presented?

A. On Exhibit 8 I made up a supplement to the cross-section that shows the two wells that have been developed since the 1993 hearing, and the Purvis well, the dryhole, is on the right, and the re-entry of PPMI Star well is on the left.

You can see that these wells are not the quality of the other four wells on the cross-section B-B', although we do have a few thin streaks of porosity in those wells.

One of the problems that you have in this field is that it is a basal detrital zone on the top of the

Wolfcamp, and it does have some radioactive material, and sometimes it's very difficult to tell which zones are actually pay in that area.

Q. Let's move on down and go to Exhibit Number 9. Would you identify Exhibit 9 for the Commission and review the information thereon?

A. Exhibit 9 is a tabular listing of the production of all of the wells that are producing in the Milnesand-Abo field, since their inception, with the exception of the discovery well, the Williamson well, back in the Sixties.

The cumulative oil and gas totals are shown there also.

And the PPMI Number 4, the well on the right, was commingled -- dually completed, commingled, in October of 1993, with the Bough C. They originally drilled that well to the Bough C, but the only completed in the Abo.

And what we're showing in here is quite a variance in production, even though the top three wells have produced roughly about the same time, but we see 42,000 barrels in the Knox well, 100,000 barrels in the Number 3 -- PPMI Number 3, and around 45,000 barrels in the Will Number 4.

BTA's well has not produced as long, but it is -- as of some workovers in the first part of 1994, it is coming on a little better and is now up to almost 30,000

barrels.

The Star well, the re-entry, they did that in last -- in the summer of 1994. It is not a good well. It's possible that it will not last very long.

Q. Now, if we go to Exhibit Number 10, is this basically a graphic presentation of the information on Exhibit 9?

A. That's right.

Q. What does this show you?

A. What it shows is a fairly gradual decline, and then they tend to start flattening out. And I think probably by the time we add 1995 production on there, most of these curves will tend to flatten out considerably, with the exception of some workovers, as you can see, like on the first well on the left, the BTA well, where they did work that well over the first part of 1994.

Most of them show a fairly flush production, and then they continue to decline but do tend to flatten out considerably.

Q. Now, Mr. Luff, what is PPMI Exhibit Number 11?

A. Number 11 is calculations by volumetrics and by pressure performance on -- that Knox industries did and presented in the 1991 hearing. And I have gone over these numbers; I don't see any problem.

Basically, they were coming up with about --

ultimate reserves of around 130,000 barrels per well. What this was saying, that if it's -- This is on 80-acre spacing, and if you went to 40s, of course, it would be much less than this.

Q. All right, and let's go, then, to Exhibit 12. What is this?

A. Exhibit 12 is really a reworking of calculations on economics that Knox presented, but they had some of the numbers wrong, and the -- some of the criteria has changed.

So I have reworked this to set up a comparison between 80-acre spacing and 40-acre spacing, using the recoverable reserves that they calculated, and it seems to be reasonable.

However, the thing that's quite glaring right -- on this right now, is using $20 oil, and of course, we're running at $15 to $16 right now.

But what this shows is the difference between 80-acre spacing and 40-acre spacing, that the profit-to-investment ratio is satisfactory on 80-acre spacing, but by the time you get to 40-acre spacing you really cannot do it.

What I've added to their exhibit are the actual drilling costs at the bottom. And the trouble with using some of this is that some of them were dryhole costs or workovers and plug-backs, and so what I'm basically using

in here is $650,000 for a completed well.

Q. If we look at the -- You prepared this exhibit, correct?

A. Yes.

Q. And if we look at this exhibit, the profit-to-investment ratio on 80-acre spacing is 1.27, correct?

A. That's true.

Q. If we go to 40 acres, that drops from 1.27 to .03; is that right?

A. That's right.

Q. In your opinion, is it economic to go forward with the development of this pool on 40-acre spacing?

A. No, I don't think it is.

Q. We have used and adopted basically from the Knox presentation an estimate of recoverable reserves of 130,000 barrels of oil. Could you relate that figure to what has been marked for identification as PPMI Exhibit Number 13?

A. Exhibit 13 is a study or a portion of a study, a summation, that Mohajir and Associates, an oil and gas engineering consulting firm in Overland Park, Kansas, did for them, and this is a letter that was sent to the Commission at the end of 1994.

Q. And this is, in fact, what the Examiner was asked to consider in reviewing in this case the last time at an Examiner level; is that right?

A. That's true.

Q. What sort of recoverable reserve figures are reflected in this exhibit?

A. They are showing, in the third paragraph about the middle -- it says projected oil recovery from the Will Number 3 is 187,000 barrels, and the ultimate recovery from the Will Number 4 to be around 75,000 barrels.

At this time, going back to the -- one moment -- to Exhibit 9, as of the end of -- the first part of 1995, the Will Number 3 has made 100,000 barrels, and the Will Number 4 has made 45,000 barrels. So they seem to be pretty much in line with what they have projected here.

The comment they made, that the two wells are expected to drain 89.8 barrels of oil per acre-foot and to come up with around 122.5 acres per well.

At the top of the second page, they make the statement that, "Drainage in the Milnesand-Abo Pool will be at least 80 acres per well or more", and "Development on less than 80-acre spacing will result in uneconomic drilling..."

Q. Now, based on this information, based on the work you've reviewed that was originally prepared by Knox, does this confirm your determination that in economic calculations it's appropriate to use 130,000 barrels of oil for recoverable reserves for each well?

A. I think that's reasonable, and --

Q. Now, this engineering consulting firm was actually working for you in preparing this report; is that correct?

A. Well, it's for Petroleum Production Management, Inc.

Q. Did you request that they take the tables attached to their report and that they attach the data and bring it forward to make it as current as possible?

A. Yes, at the time they made this up and sent it in, they brought their curves up to September of 1994, and I asked them to extend that production data that I had up to the first of 1995 so it would be compatible with all the production data that I had on these other charts.

Q. Is there --

A. And -- Excuse me.

Q. Is there anything else you want to present with Exhibit 13?

A. No, I don't think so.

Q. All right, let's go to Exhibit Number 14. Will you identify this and then explain to the Commission what this exhibit is designed to show?

A. One of the things that -- We have kind of a diversity in the wells on payout status, and this chart was originally made up in 1993, and I've extended it out to

cover the rest of -- up to 1-1-95.

But what it shows is that the Will Number 3 paid out in about six months, which was very unusual. It was a very good well.

But it was producing at a high rate during the Gulf conflict and where we had very high dollar-per-barrel on the price of intermediate crude. But since then we've dropped down, and we're actually staying pretty close to where I have it there at the end of the year.

The payout status, then, on the Knox well is almost four years.

The Will Number 4 is -- was slightly less. That's about -- almost three years. But keep in mind, that was commingled with the Bough C since -- for about the last year.

And then the BTA well has not paid out, and of course the Star well has not.

Q. And the line across the top shows the crude oil price; is that right?

A. Well, which way are you -- you turn it around --

Q. The uppermost curve.

A. Yeah, it's on the right side there.

Q. Okay. At the 1993 Examiner hearing, PPMI was -- you were asked, in fact, to locate what pressure data might exist on this reservoir; is that not correct?

A. Yes.

Q. And there is really limited data on the pool; is that a fair characterization?

A. That's true, and some of this I didn't find out until I started preparing for this hearing.

Q. And is the pressure data you've been able to locate set forth in what has been marked as PPMI's Exhibit 15?

A. That's right.

Q. Can you review that for the Commission, please?

A. All right. I was able to obtain the data from Knox Industry, which are the first two pages, and they did run pressure tests that was slightly less than seven days, and it does -- it shows a building pressure, and this is one of the characteristics of this formation.

Q. Now, what page of the exhibit are we on? Are we on the first or the second?

A. First -- well, the first page.

And then the second page is actually a graphic pressure buildup of the data that's on the first page.

Q. What does this show you?

A. But what we have here is the -- even after seven days, the pressure is still building on the wells, and we never get up to formation pressure. I think it indicates very low permeability, which is one of the problems that we

have.

The third page is the pressure data on the PPMI Star well that was a re-entry or a plugback, and it's showing basically the same thing, but we have a much higher pressure there, almost three times what is indicated in the Knox well.

And this was run for a little less than four days, but again it shows the same thing, that the pressure is still building by the time the test was shut in.

Q. This in fact shows you that you've got a fairly tight reservoir?

A. We have a tight reservoir that -- with good porosity but low permeability.

Q. And does this suggest to you anything about how this particular reservoir might be drained?

A. I think the -- it will drain probably more than 80 acres on all the wells, but it will take a long time to get it. And quite similar to some of the San Andres wells, they will hang in there for maybe 20 years. I'm not sure that this will be quite that long, but it does stretch the production curve out quite a bit.

Q. Now, Mr. Luff, what conclusions have you been able to draw about this pool from your study of this information?

A. The zone is present in all of the wells in the

main part of the area, but it has fairly good reservoir pressure, with low permeability.

The production rates decline rapidly from the initial production but level off and then produce for sustained periods to abandonment.

I do not think we can economically develop this on 40-acre spacing. Economics has become a factor in development of the field, as payouts will slow down. In some cases, depending upon the price of oil, it may be marginal on 80-acre spacing.

And of course the exceptional well is the PPMI Number 3.

Q. Now, Mr. Luff, in your opinion would additional drilling on 40-acre spacing result in the additional recovery of oil from this pool?

A. I really don't think so. I think what you would have would be operators or other wells competing for the same reserves, and it would diminish the reserve recovery on the wells that are presently producing.

Q. Is there, in fact, potential for future development in this pool on 40-acre spacing if, in fact, that should become the spacing pattern for the pool?

A. I don't think they'll meet the economic criteria, and I don't believe the operators will drill the wells. You're talking about a zone at around 9000 feet, and that

gets a little expensive to drill for that.

Q. Could you identify PPMI Exhibit 16 and 17?

A. Yes, these are letters of support from Knox Industries and from BTA, the other two producers in the field.

Q. We talked about development if 40-acre spacing was adopted in the pool. What about additional development if, in fact, 80-acre spacing is adopted?

A. Under the present conditions, I think we could conceivably see several more wells drilled in there, but that will depend on if there's no change in ownership or if the price of oil doesn't go any lower than it is right now.

Q. The original Examiner Order provided that the case would be reopened to permit operators to show that 80-acre units can be efficiently and economically drained by one well.

Based on your study, in your opinion, can one well efficiently drain 80 acres?

A. Yes, I believe they will.

Q. And will 80-acre spacing result in economic development of the remaining reserves in this field?

A. I think so.

Q. In your opinion, will approval of this Application result in the prevention of waste and the protection of correlative rights?

A. Yes.

Q. Were Exhibits 1 through 7 either prepared by you or compiled under your direction?

A. Yes.

MR. CARR: At this time, Mr. Chairman, I would move the admission of PPMI Exhibits 1 through 17.

CHAIRMAN LEMAY: Without objection, Exhibits 1 through 17 will be admitted into the record.

MR. CARR: And that concludes my direct examination of Mr. Luff.

CHAIRMAN LEMAY: I'd ask for additional questions from the audience out there, but --

THE WITNESS: We got rid of them.

CHAIRMAN LEMAY: -- being none, I'll ask Commissioner Weiss if he has any questions?

EXAMINATION

BY COMMISSIONER WEISS:

Q. Yeah, I have a comment, I guess, and a -- two comments.

One, you know, there's people who are just looking for this kind of reservoir to infill drill: tight, high initial rates, high pressure.

So that's one comment.

But the other is, there's nobody to test them, or at least the majority of the people who own the leases who

are -- supports your conclusion.

So those are my only comments.

A. I might add to that, if you go back to the first exhibit, you'll see all the blue trend. This is the Bough C production, and hundreds of wells were drilled to the Bough C pay very quickly. They did not look at the upper zones at all.

And since these wells have -- many of them are abandoned or reaching the abandonment stage, now they're going back and looking at pays that were missed, and the Abo pay is one of them.

And so the problem here is that economically, unless you have an exceptional well, the only way you can drill a well for the Abo -- or complete a well in the Abo, is to re-enter a hole. And in most cases, these Bough C tests, they've shot off the casing and it's very hard to go back in those holes.

Q. Were they on 40s, most of them?

A. No, they were on 160s, a lot of them.

Q. 160.

A. So this is really a recompletion of zones that they hadn't looked at before.

COMMISSIONER WEISS: Thank you.

CHAIRMAN LEMAY: Thank you, Commissioner Weiss.

Commissioner Bailey?

EXAMINATION

BY COMMISSIONER BAILEY:

Q. You said that it would take a long time to drain 80 acres. Have you calculated how long it will actually take?

A. Well, of course, this is going to vary on the amount of porous pay that you have in each well, and you could see from the cross-section that it does vary considerably, and we're not absolutely sure that each one of the little lenses is connecting, although the zone is correlative over the whole field.

So it would be something that you would have to calculate individually for each well, and you can't just make a standard remark and say they're going to take so long to do.

Q. How about for the Number 3 Will?

A. Well, we're currently about -- About 60 percent of the reserves that have been calculated for that well, so we still have another probably two or three years to go before we'll recover -- well, I guess it might be a little longer than that, maybe four years to go before we recover those reserves.

Q. What happened to the Number 4 Will? I'm looking at Exhibit Number 10, that far right.

A. This well was going down, and then in October of

1993 they -- they had drilled the well to the Bough C but completed in the Abo, which is about 900 feet between the two zones. Then they went back in the end of 1993 and dually completed those, commingled it.

The pay in the Number 4 Will is not the quality of the pay in the Number 3 Will.

Q. Exhibit Number 12, you show the economics of 80-acre spacing versus 40-acre spacing. Over what period of time have you calculated that?

A. Well, the length of time it would take to recover those reserves that are applicable to each case.

Q. So are we saying it takes twice as long to get the 80-acre-spacing economics as it does the 40 acres?

A. No, it would be more than that. You're looking at a difference of almost -- from 1.27 to .03.

But even that's figured on $20-a-barrel oil. And so -- You get to the point where it's not even profitable to drill these things on 40 acres.

Q. Well, I'm trying to make sure that it's not comparing apples to oranges, that we're comparing apples to apples in this exhibit.

MR. CARR: Was your question how long --

COMMISSIONER BAILEY: Yes.

MR. CARR: -- under the 80-acre scenario it would take to recover the reserves, compared to 40, in terms of

period of time?

THE WITNESS: Well, I'm not sure I can answer that, because you're looking at -- It depends on the quality of the reservoir, and that's something that varies considerably.

And so -- if you said the reservoir was the same in both cases, it would probably take you the same length of time, but you wouldn't get the return on your money.

Q. (By Commissioner Bailey) Exactly.

A. In other words, the wells are going to cost roughly the same to drill.

Q. Exactly.

A. Except I did make a slight difference here of $10,000.

So if you're only going to have -- if it's going to cost you the same to drill, but you're getting less reserves for 40-acre spacing, regardless of the time, you probably would not do that. You're only talking about half the reserves per well that you would get and recover on those.

EXAMINATION

BY CHAIRMAN LEMAY:

Q. Mr. Luff, do you want to describe the pay for us? Is it a dolomite fracture, sucrosic or detrital?

A. Well, as you know, in southeast New Mexico the

Abo has several pays, there are the sands in the Pecos Slope and the Reef and the Abo Reef, and this is detrital. It does vary. I've seen some where you have even some cherts in there.

The thing that's still a mystery is what is the radioactive material that's present on this unconformity surface, or disconformity?

But in these wells, in the Will wells and in the other wells, it's a very, very fine crystalline dolomite, highly saturated, has excellent porosity, but the permeability is very low.

CHAIRMAN LEMAY: Okay, that's all the questions I have.

Commissioner Weiss?

FURTHER EXAMINATION

BY COMMISSIONER WEISS:

Q. I have one more question. I think you mentioned it and I just forgot.

What are the reserves required to justify a $650,000 well or 8500-foot well?

A. I think you're probably looking at somewhere in the range of around 75,000 to 80,000 barrels.

Q. Thank you.

A. Depending upon what the price of oil is.

COMMISSIONER WEISS: Oh, yes.

CHAIRMAN LEMAY: No questions?

Thank you very much, Mr. Luff.

MR. CARR: Mr. Chairman, that concludes our presentation in this case.

CHAIRMAN LEMAY: Thank you, Mr. Carr.

Anything additional in the case?

We'd like maybe a submittal of a draft proposed order from you.

MR. CARR: Yes, sir.

CHAIRMAN LEMAY: And we shall take the case under advisement.

(Thereupon, these proceedings were concluded at 4:10 p.m.)

* * *

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 Commission 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 August 16th, 1995.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION COMMISSION

CASE NOS. 11,798, 10,280

AWAITING FINAL COMMISSION ACTION

NO EVIDENCE OR TESTIMONY TAKEN

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COMMISSION HEARING

BEFORE: WILLIAM J. LEMAY, CHAIRMAN
WILLIAM WEISS, COMMISSIONER (Present by telephone)
GARY CARLSON, COMMISSIONER

October 16th, 1997

Santa Fe, New Mexico

These matters came on for hearing before the Oil Conservation Commission, WILLIAM J. LEMAY, Chairman, on Thursday, October 16th, 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

October 16th, 1997
Commission Hearing
CASE NOS. 11,798, 10,280
(Awaiting final Commission Action -
No evidence or testimony taken)

* * *

A P P E A R A N C E S

FOR THE COMMISSION:

LYN S. HEBERT
Deputy General Counsel
Energy, Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, New Mexico 87505

* * *

WHEREUPON, the following proceedings were had at 9:10 a.m.:

CHAIRMAN LEMAY: Good morning, this is the Oil Conservation Commission. My name is Bill LeMay, Chairman of the Commission. To my right is Commissioner Gary Carlson representing the Commissioner of Public Lands, State of New Mexico. In one minute, on the phone, we're going to have Commissioner Bill Weiss, by virtue of modern communication. So we will get Bill here on the phone.

Bill?

COMMISSIONER WEISS: Yeah.

CHAIRMAN LEMAY: I've got you on the speaker phone here at the Commission hearing.

COMMISSIONER WEISS: All right

CHAIRMAN LEMAY: And I introduced you as Commissioner Bill Weiss, other Commissioner here on the Oil Conservation Commission.

And what we have in the order of business today are some orders, one of which is Case Number 11,798, which is the Application of Collins and Ware for special pool rules in Lea County, New Mexico.

Is it your intention to sign the order and take final action?

COMMISSIONER WEISS: Yes, it is.

CHAIRMAN LEMAY: Okay, and I too choose to sign

the order for final action on the Collins and Ware case.

* * *

CHAIRMAN LEMAY: We also have for final action Case Number 10,280, which a *de novo* case that we'll be talking about here -- I'm sorry, it's a *de novo* case for back in 1995, August of 1995, which promulgated special pool rules and regulations for the Milnesand-Abo field in Lea and Roosevelt Counties, New Mexico.

Is it your intention to sign this order?

COMMISSIONER WEISS: Yes, it is.

CHAIRMAN LEMAY: Okay, and I likewise plan to sign that order, so let the record show that Commissioner Weiss and Commissioner LeMay took final action on those orders.

* * *

CHAIRMAN LEMAY: Also, do you want to make a motion for approval of the minutes of the previous meeting?

COMMISSIONER WEISS: Yes, I move that we approve the minutes of the previous meeting.

CHAIRMAN LEMAY: And I second that motion. So it's been moved and seconded that the minutes be approved, and so be it.

(Thereupon, these proceedings were concluded at 9:12 a.m.)

* * *

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 Commission 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 October 20th, 1997.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998