NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date MAY 6, 1993 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Karen Aubrey	Law Office of Karen Aubrey	Santa Fe
Kathleen Volk	Hollwood Petroleum, Inc	Denver, CO
KEVIN O'CONNELL	Hollwood Petroleum, Inc	DENVER, CO
W. Kellahin	Kellahin + Kellahin	Santa Fe
Larry Smith	Pronghorn SWD	Hobbs
Marc Ulrie	Pronghorn SWD	Hobbs NM
James Bruce	Hubble Cave Farm	Santa Fe
Ned Hendrick	Montgomery & Andrews	Santa Fe
JERRY SEXTON	OCD	Hobbs.
Michael Wallace	Pronghorn SWD (REISBEC Inc.)	Albuquerque.
ANDREW CORE	State Engineer Office	Santa Fe
Peggy Barcroft	State Engineer Office	Santa Fe
Susan Kay	SEO	"
Tom Morrison	SEC	"
Lowell Deckert	Mc Adams Estate	Hobbs
Sexton	OCD	Hobbs

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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 10,727

EXAMINER HEARING

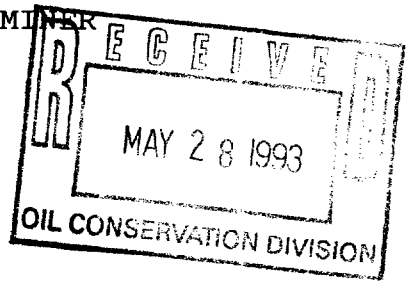
IN THE MATTER OF:

Application of Mobil Exploration and Producing U.S., Inc., for downhole commingling, Lea County, New Mexico

TRANSCRIPT OF PROCEEDINGS

ORIGINAL

BEFORE: DAVID R. CATANACH, EXAMINER



STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

May 6, 1993

A P P E A R A N C E S

FOR THE DIVISION:

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Legal Counsel to the Division
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Santa Fe, New Mexico 87504

FOR THE APPLICANT:

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* * *

I N D E X

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E X H I B I T S

APPLICANT'S EXHIBITS:

* * *

WHEREUPON, the following proceedings were had at 8:30 a.m.:

EXAMINER CATANACH: At this time we'll call Case 10,727.

MR. STOVALL: Application of Mobil Exploration and Producing U.S., Inc., for downhole commingling, Lea County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. KENDRICK: May it please the Examiner, I'm Ned Kendrick with Montgomery and Andrews law firm in Santa Fe, appearing on behalf of Mobil Exploration and Producing U.S., Inc.

I have with me one witness who needs to be sworn.

EXAMINER CATANACH: Okay, any other appearances?

Will the witness please stand to be sworn in?

DANIEL HAWE,

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

DIRECT EXAMINATION

BY MR. KENDRICK:

Q. For the record, please state your full name and employer.

A. My name is Daniel Hawe. I'm employed by Mobil Exploration and Producing U.S.

Q. What is your position at Mobil, and what are your responsibilities?

A. I'm a senior staff reservoir engineer with the mid-continent group, and my responsibilities are for various properties in the West Texas and the mid-continent area.

Q. Okay. Does that geographical area include Lea County, New Mexico?

A. Yes, it does.

Q. How long have you held this position with Mobil?

A. I've been in this position for approximately one month.

Q. Okay. Have you appeared before the New Mexico Oil Conservation Division, either examiner, or the New Mexico Oil Conservation Commission and had your qualifications as an expert in petroleum engineering made a matter of record?

A. I have not.

Q. Okay. In that case, would you briefly summarize your educational background and, as it relates to petroleum engineering, your work experience?

A. I have a bachelor's degree, 1976, from

Montana Tech in Petroleum engineering, and my experience has been 17 years of various aspects of reservoir production operations, various areas, six years with Amerada Hess Corporation, three years the Superior Oil Company, and the remainder of the time with Mobil.

Q. Have you appeared before any conservation commissions in other states?

A. I've appeared in North Dakota and Oklahoma and in Montana.

Q. Okay. Are you registered as a petroleum engineer in any state?

A. Yes, I'm registered in Colorado and in California.

Q. Okay, are you familiar with the Application of Mobil in this case today?

A. I am.

MR. KENDRICK: And Mr. Examiner, I request that Mr. Hawe be qualified as an expert in the field of petroleum engineering.

EXAMINER CATANACH: Mr. Hawe is so qualified.

MR. STOVALL: Could you spell your name for the --

THE WITNESS: H-a-w-e.

MR. STOVALL: Thank you.

Q. (By Mr. Kendrick) Okay, Mr. Hawe, would you briefly describe the Application that Mobil has filed and basically what you seek to do in it?

A. Mobil has requested permission to commingle two producing zones in this field, the Wolfcamp and the Upper Penn, in five wells, in order to efficiently produce each of these reservoirs.

Q. Okay. Have you prepared certain exhibits for introduction in this case?

A. I have.

Q. Okay, let's turn to what has been marked as Exhibit 1, Mobil's Exhibit 1. Would you first identify the exhibit and review the information contained on the exhibit for the Hearing Examiner?

A. This is a map of the immediate area of the South Shoe Bar field, which is the field in question for our Application. It shows all of the producers within an approximately 12, 16 township area that are producing -- currently producing either the Wolfcamp or the Upper Penn. It shows the Wolfcamp producers as circles, the Upper Penn producers as squares.

The five wells in our Application are highlighted in red. They are -- You'll note that there are three Wolfcamp producers immediately adjacent to our Application wells. These are three wells operated

by Mobil in the South Shoe Bar field, which are the subject of an earlier or a different application for commingling.

The two wells to the north, one to the northeast, operated by -- is a Wolfcamp producer operated by El Ran, Incorporated. The well off a mile and a half or so to the northwest is operated by Kaiser-Francis.

Q. Okay. As far as you know, these are the only wells in the area depicted by this map that are producing in the Wolfcamp or Upper Penn zones?

A. They are.

Q. Let's turn to Exhibit 2. Could you please identify and review it for us?

A. Exhibit 2 is a map of the area, of the South Shoe Bar field, which illustrates the Wolfcamp pool outline and the Upper Pennsylvania outline. The Upper Pennsylvanian pool is those six quarter sections outlined with hatching. The Wolfcamp pool is essentially the same with the exception of that one quarter section in Section 1.

Q. Okay, and it looks like there are eight wells on here, and could you just clarify again which ones are subject to the Application and which ones aren't?

A. Okay, starting from the top in the southeast

part of Section 36, the Lovington Deep Yates Number 1 is part of the earlier application.

Going east to the southwest quarter of Section 31, the Kriti Number 1 is part of that earlier application.

The well all the way down in the bottom of the page, the LD Amoco Number 3, is part of that previous application.

The five wells in that center area of that field are our current Application.

Q. Okay. Let's turn to Exhibit 3. Would you identify and review it for us, please?

A. Exhibit 3 is actually two pages, each a lease -- or a plat showing -- The first page is Lovington Deep State lease. It shows the three wells in this Application and the acreage associated with each well.

Page 2 is the Lovington Deep Amoco State lease. It shows the wells in the Application and the acreage associated with each of those wells.

Q. What is the spacing involved here?

A. The Pennsylvania is spaced 80 acres.

Q. Okay, let's turn to Exhibit 4. Please identify and review it.

A. Exhibit 4 is a map which shows those lease holders immediately adjacent to the Application area,

other than Mobil. There are three leases that fall under this category, highlighted with the colors, owned by Greenhill Petroleum, Texaco and Exxon. All the leases immediately adjacent other than that are owned by Mobil.

Q. Okay. Did Mobil notify the owners of these three offsetting leases?

A. No, they did not. These leases do not contain any wells in either of the subject zones.

Q. Okay, let's turn to Exhibit 5. Would you identify and describe them, please?

A. Exhibit 5 is a -- It's five pages, a wellbore schematic for each of the five wells in the subject Application, one for each of the wells, showing the configuration of the equipment and plugs in place, perforations.

And rather than go through each of them, a good example would be page 3. I'll draw your attention to that. Page 3 is a schematic for the Lovington Deep State Number 3. This is the only well in the Application that actually has been perforated and been produced in both of the zones that we are dealing with.

You'll see Pennsylvanian perfs at the bottom, a cast-iron bridge plug with 35 feet of cement on top, separating that zone from the current Wolfcamp

perforations indicated just above that. This is typical of all the schematics.

Q. Okay, and I take it the other four schematics show perforations in the Pennsylvanian?

A. That's right.

Q. And not in the Wolfcamp?

A. Right.

Q. Okay. Let's turn to Exhibit 6. Would you please identify and review it for us?

A. Exhibit 6 -- There's several pages, there's 12 pages. What they consist of is the Form C-105 and C-103 that had been submitted to the State earlier for each of the five wells in the Application.

Q. Okay. Is there anything remarkable or anything worthy of note right now?

A. These just -- These contain information which you also find in wellbore schematics, but it's the information necessary for completion or subsequent work. But they are just as a matter of record, information that is not necessarily pertinent to the issue, really.

Q. Okay, in that case, let's move on to Exhibit 7. Identify and review that for us.

A. Exhibit 7 are three pages that show recent gas/oil ratio tests for each of the wells in the field.

There are eight wells in the field. Five of them are part of this Application.

These were filed some time ago with the State, and they are just included for information purposes.

Q. Okay, and it looks to me like the first page has only one well that's one of the subject wells that we're dealing with today?

A. Right.

Q. And then it has three other wells that are in the same field?

A. Right.

Q. But not subject to today's Application?

A. The Lovington Deep State 3 is the only one on this page which is part of the Application.

The second page has the Amoco State 1, the Deep State 1 and Deep State 2, and the last page has the Amoco State 2.

Q. Okay. And I take it you provided this just to complete the Application, but that you aren't necessarily going to use this data --

A. No.

Q. -- for an allocation between the zones?

A. No, this is not my intent.

Q. Okay, let's turn to Exhibit 8. Could you

identify and review this exhibit?

A. Exhibit 8 is a set of production decline curves, and immediately behind each decline curve is the tabular production data for each of the wells in the Application.

The curves themselves depict average daily producing rates for each month, oil, gas and water.

We'll point out that the scales in the schematic of these curves, the rate oil rate indicated -- oil in barrels per day is indicated by the step-type line, more or less of a bar fashion.

The heavyweight solid line is the water production in barrels per day.

The lighter solid line is gas, MCF per day.

Q. Just so I understand how these graphs work, is this the exact same information that you have in tabular form?

A. Yes, the tabular form is actually the oil, gas and water volumes for each month and the days, producing days, included. The average daily rate that's plotted on the plot is determined from this -- the production for the month divided by the days in the month, to get the average daily rate for that month.

Q. Okay. So you have 12 data points per year?

A. Right.

Q. One per month, based on averages?

A. Right.

Q. Okay.

A. And there is one curve for each well. And rather than go through each of them, they're essentially all Pennsylvanian with the exception -- and I'll just draw your attention to the Deep State Number 3, beginning on page 7 of the exhibit. This is the well that has production data for both zones. It currently is producing from the Upper Wolfcamp.

Page 7 shows the Wolfcamp production curve.

Page 8 is the tabular data from which this curve was derived.

Page 9 is the Pennsylvanian production curve, which -- That's the zone the well was producing from, prior to being recompleted in the Wolfcamp.

Page 10 is the tabular data for the Pennsylvanian curve.

You'll note that the production curve on page 9 stops in January, 1991, as does the Wolfcamp curve begin in January, 1991, when the well was recompleted.

Q. Okay, what strikes me here is the production looks pretty good out of the Wolfcamp.

A. Yes, this Wolfcamp producer is somewhat anomalous to typical Wolfcamp production in the field.

The rate has been holding fairly steady. You'll note that the well began production at well over 300 barrels a day and experienced a rapid drop. Typical Wolfcamp production would see that drop continue for some time and stabilize at much lower rates.

We seem to be holding at the 80 to 100 barrels per day, and have been for about a year or so.

I did some research and found out that there was some evidence of natural fracturing in this Wolfcamp, in this well, that would certainly increase the producibility of the -- natural permeability of the well and the producing rate that we could get.

The --

Q. So that if you were to extrapolate outward, what would you predict from this well?

A. Well, I see a downward trend. But what we really are experiencing right now could be described as production from the fracture system.

And then once the fracture system is depleted -- In fractured reservoirs, the fracture system depletes first, and then you experience your typical decline, as with the other Wolfcamp wells, matrix permeability.

Q. Okay. Let's -- While we're talking about the

Wolfcamp well, let's go to Exhibit 9.

A. Exhibit 9 is actually the -- producing decline curves and data for the three wells, the other three wells in this field that are not part of this Application. They're part of a previous application.

But these three wells produce from the Upper Wolfcamp.

Q. Now, just so we know what wells you're talking about, I believe these are the wells that are depicted on Exhibits 1 and 2?

A. On Exhibit 1, you would note them as the three black circles immediately around our subject wells.

So they're in the field, producing from the Wolfcamp, and these are the wells that give us the indication of typical Wolfcamp production, typical Wolfcamp rates and decline -- production decline rates.

Q. Okay, what -- Can you describe further what those rates appear to be?

A. Well, we have current rates in these three Wolfcamp wells of -- It looks like 19 barrels a day, around eight barrels a day, and 20 barrels a day, current rates.

Q. Okay. Maybe give us a little production history, if you compare over a similar time period

total production from these three Wolfcamp wells with the Wolfcamp well that's the subject of our Application --

A. I did look at that. These three Wolfcamp wells averaged in their first 18 months -- Essentially that's about all the life they have so far. In the 18 months they averaged 15,000 barrels per well recovery.

The Lovington Deep State Number 3, shown in Exhibit 8, the well we suspect has fracture permeability to enhance it, produced 70,000 barrels in its first 18 months of production. That's a vast difference, really, and the point that I would make is that the explanation what seem to be the existence of additional permeability that we just don't typically find in Wolfcamp producers.

Q. Okay, and that's not what you find when you complete these subject wells into the Wolfcamp formation?

A. Our expectations really are to find Wolfcamp more like these three wells in Exhibit Number 9 than what we've seen in the Deep State Number 3.

Q. Okay.

A. There is some additional data that tends to support that, that will fall in a later exhibit that I will address later.

Q. Okay. Do you have any more remarks on Exhibit 9 at this time?

A. I don't.

Q. Okay. Now that we've discussed decline curves in Exhibits 8 and 9, how would Mobil propose to allocate future commingled production between these two zones?

A. Four of the wells in the Application are producing only from the Upper Penn and have no history other than that.

What we would do is anticipate that the producing rate from the Pennsylvanian would be subtracted from total production, and the difference be allocated to the Wolfcamp, that we have a -- we can forecast what Pennsylvania production would be in the future, at any point in time. We can deduce, then, what -- the difference between being Wolfcamp production from the commingled stream.

Q. Okay. Is the ownership of these two zones common?

A. Yes, it is.

Q. Okay. Let's turn to Exhibit 10. Could you identify and review it for us?

A. Exhibit 10 are three pages. What we have attempted to show is the compatibility of the water

from these two zones.

This water -- The first page is actually a water analysis on two water samples. Sample Number 1 is produced water from the adjacent Greenhill Lovington unit. If you note on Exhibit 1, it's immediately to the southeast of the unit. This is where all the produced water is currently going from all of our producing wells.

The West Lovington unit is a waterflood. They use this water to supplement their water production for their waterflood.

So what they have done is take a sample, which is labeled Number 1, do an analysis. Then they have a sample labeled Number 2, which is our water production from the Deep State unit, which actually is commingled water from both zones.

What they were doing is testing the compatibility of our water with their water, and found no scaling tendencies, no compatibility problems.

Q. No precipitation?

A. No precipitation, no problems whatsoever.

Page 2 and page 3 are actually the surface commingling permit that we currently have to combine on the surface all production or all fluids from each of the wells in our South Shoe Bar field.

So currently all of the Wolfcamp and Upper Penn water is being commingled at the surface in production facilities. And we have not exhibited -- evidenced any scaling problems, precipitants or any compatibility problems.

Q. Okay. Do you know anything about the gravities of the production from those two zones?

A. The oil gravities are very similar. I've seen a Wolfcamp gravity of 41 and an Upper Penn gravity of 46, and they are currently commingled at the surface and sold as a blend from the field.

Q. Is there any evidence that the value of the commingled production is any less than the sum of the value of the separate productions?

A. No, there's no evidence that the gravity of the blend is -- The value of that gravity would be the same if it would be sold separately.

Q. Okay. Let's turn to Exhibit 11. Would you identify and review it for us?

A. Exhibit 11 is some pressure data that we have obtained for the wells in this Application, in this field.

The first page of Exhibit 11 was actually some original pressure data taken from drill stem tests when these wells were drilled. You'll see most of them

are Wolfcamp pressures.

Midway down the page, a date of November 3rd, 1987, is the Lovington State Number 2, an Upper Pennsylvania drill stem test. The others are all Wolfcamp drill stem tests and original pressures.

What this indicates, basically, is that original pressure in both zones is in the 4500- to 4700-pound range with really very little difference between the two zones in original pressure.

Q. Okay. Would you say that these are typical Wolfcamp and Penn pressures, as far as you know?

A. I would expect these to be typical for any virgin pressure, any original pressure, before any depletion, that -- There's some other information that I've noted on this data that I would point out.

The third drill stem test, the Lovington State Number 2 at 10,357, shows an initial and a final drill stem pressure. Drill stem tests typically have two buildups done, initial and a final, as is the next drill stem test, have one, and the one after that.

That Upper Pennsylvania drill stem test shows an initial shut-in pressure of 4715, a final shut-in pressure of 4708.

The next drill stem test in the Lovington State Number 3 at 10,191 feet in the Wolfcamp shows an

initial drill stem shut-in pressure of 4633.6, the final shut-in pressure, 4546.3.

The fact that in each of these cases that the final pressure is lower, somewhat lower than the initial shut-in pressure for the same reservoir at essentially the same time is due to the length of the buildup, length of the drawdown in each of those two tests. The initial test is run for a shorter period of time.

It's been my experience that to note a lower pressure in the final is usually an indication of somewhat lower permeability. And I would note that the last drill stem test, Lovington Deep State Number 3, in a lower portion of the Wolfcamp, had an initial and final shut-in pressure that are identical, something you might expect to see in some extraordinary permeability or in the presence of fractures.

Q. Okay. Generally when the subject wells are completed into the Wolfcamp, I understand you would expect an initial pressure to be in the range of 4600 to 4700?

A. I have no reason to believe that where we have not produced Wolfcamp that the pressure should be any less than what these original pressures were.

Q. Okay. Let's go to page 2.

A. Page 2 is a recent shut-in static fluid level that was measured in the Loving Deep State Number 2, which is a Pennsylvania producer. This is a method by which we can get a pretty good estimate of what bottomhole pressure is. This is a 24-hour shut-in pressure, so this is not necessarily interpreted as a reservoir pressure.

Since these are very tight reservoirs, a very long drawdown -- a very long shut-in period would be required to arrive at any real reservoir pressure.

But what we do see here is that at the end of the 24 hours, noting the surface casing pressure measured and the final fluid level above the pump, a shut-in bottomhole pressure at 24 hours was indicated to be 500 pounds.

Q. Okay. Would you say this is a typical or expected pressure for a Penn well that's been producing for a few years?

A. It seems to be reasonable for the nature of the reservoir and the production from the well.

Q. Okay.

A. I would expect that this well -- This well would continue to build up pressure, that it's hard to say as to what its ultimate buildup pressure would be in a given -- ten days or two weeks, it might approach

something in the nature of 1000 pounds, but certainly not much more than that in my estimate.

Q. Okay. And could you just discuss for a moment page 3 of the exhibit?

A. Page 3 is a similar shut-in fluid level measured on the Deep Yates State Number 1, which is actually a Wolfcamp producer well, not part of this Application. It's one of the Wolfcamp producers of that three that we've been referring to.

It shows essentially the same pressure, 500 pounds, for the same shut-in period, in a different zone.

Q. Okay. So basically after a Pennsylvanian well or a Wolfcamp well produced for several years, it looks like the pressure pretty much is equal?

A. Well, that -- it's obvious that -- The Wolfcamp is spaced at 40 acres; that fits its typical permeability profile. Tighter reservoirs are not able to drain as large an area.

The Wolfcamp is typically a tighter reservoir than the Pennsylvanian, and that although the time frames for these two wells is about the same, the Pennsylvania producer had actually produced more oil than the Yates State 1 from the Wolfcamp. Yet the pressure depletion seems to be about the same.

Q. Okay. Now, let's -- What's obvious, I guess, to any of us is that it looks like there's quite a disparity between what we expect to be an initial Wolfcamp pressure where you go into those zones in the subject wells and the current Penn pressure in one of those wells.

A. Right. That is obvious, that in the four wells that are producing from the Pennsylvania in this Application, current Pennsylvania pressure would have to be -- is actually -- one of them measured, and we know it's going to be very low, and the Wolfcamp is most likely in the 4500-pound range.

That's mitigated by the fact that the Wolfcamp is most likely very tight.

But I would expect that appropriate procedure to do the commingling or to recomplete and add the Wolfcamp would be to set a temporary -- a retrievable bridge plug immediately above the Pennsylvania perforations, open the Wolfcamp and test its pressure and its producibility, and if, in fact, it is -- has that disparity in pressure and if it is capable of producing at a very high rate for a short period of time, to draw the reservoir down somewhat until the producing rates and flowing -- bottomhole flowing pressures are more similar.

At such time, the retrievable bridge plug could be retrieved and the wells commingled without a problem.

We have seen from both of these static fluid levels that they keep the wells pumped down to -- so there's no working fluid level. They keep all the -- All fluids that are produced by the Pennsylvania are being lifted by the pump.

If this working fluid level is kept down at the pump, that each zone will be free to produce without any interference.

Q. Would you expect this temporary bridge plug would be necessary in every case, or that you might check a couple wells first?

A. I would recommend that we -- at least the first couple wells, that we follow this procedure, set a bridge plug and open the Wolfcamp, test it.

We're finding that there doesn't seem to be the need for it that I would expect, perforate the Wolfcamp without that separation.

We've seen in the -- in all the Wolfcamp producers, actually, the initial high producing rate that we see, and high bottomhole pressure, drops pretty rapidly. So it's not a long period of time that we would expect the need for that -- to have that bridge

plug.

Q. And I expect if you set this bridge plug, there would be an added benefit of, again, some initial production data from the Wolfcamp?

A. That's true. If we leave it that we can produce the Wolfcamp for a month or so and get additional information that could be used for allocation, we would have a Wolfcamp producing rate immediately before such time they were commingled. It would help us to allocate a little more accurately.

Q. Okay. Were Exhibits 1 through 11 prepared by your or compiled by you?

A. Yes, they were.

MR. KENDRICK: At this time, Mr. Examiner, I'd like to offer Exhibits 1 through 11.

EXAMINER CATANACH: Exhibits 1 through 11 will be admitted as evidence.

Q. (By Mr. Kendrick) Mr. Hawe, are you aware of any other nearby wells where downhole commingling and production from the Wolfcamp and upper Pennsylvanian zones has occurred?

A. I'm told that in the Vacuum field, which is very nearby, that Mobil has two wells, the Bridges States Number 102 and Number 104, which actually are -- have commingled production from both these zones.

Q. Okay. In your opinion, Mr. Hawe, would the granting of this Application be in the best interests of the prevention of waste and the protection of correlative rights?

A. Yes, it would.

MR. KENDRICK: Mr. Examiner, that concludes my examination of this witness.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Hawe, I'm a little bit unclear about the temporary bridge plug. Are you proposing to do this in every well?

A. I would suggest to the -- when we write a completion procedure, that we at least do it in the first couple of wells.

And if the need doesn't appear to be there after -- Because we're not really sure what we're going to find in each of these Wolfcamp. We would anticipate that it should be original pressure. We don't know what kind of permeability and what kind of producibility we will find.

I would expect that it will -- at the very least, the first well that we try, we would follow this method.

Q. Is it your opinion that the discrepancies in

reservoir pressure won't in any way, as long as the wells are kept in a pumped-off condition, that it won't adversely affect or cause any cross-flow to occur?

A. I expect that there would be no cross-flow if the wells are kept pumped off.

Q. If we could go through well by well and kind of give me an idea what the current production is, if we can do that, Mr. Hawe --

A. Sure. I have some -- The data that's contained in Exhibit 8, the monthly data, I have the last monthly production, just a daily rate for each well, and I'll just go through and...

The Lovington Deep State Number 1, in -- I have a December of 1992 rate from the Upper Penn of 11 barrels per day, zero water, and 41 MCF a day gas.

Q. Okay.

A. Deep State Number 2, Upper Penn --

Q. Wait, hang on a second. Okay.

A. -- December, 1992, 15 barrels of oil per day, five barrels of water per day, 50 MCF per day.

Q. Okay.

A. The Lovington Deep State Number 3, November of 1992, from the Upper Wolfcamp, I have a rate of 100 barrels of oil per day, 145 water, 122 MCF per day.

Q. Okay.

A. The Amoco -- The Lovington Deep Amoco State Number 1, December of 1992, 16 oil, zero water, 102 MCF per day.

Q. I'm sorry, the last number was --

A. -- 102.

Q. Okay.

A. The Amoco State Number 2, December, 1992, 34 oil, one barrel of water per day, 141 MCF per day.

Q. That production is all from the Pennsylvania except for the Deep State Number 3?

A. That's correct.

Q. Okay. Is that typical production, the numbers that you've just cited? Is that pretty much average production for wells?

A. Right, the average production for the Pennsylvanian appears to be at 16 barrels per day.

EXAMINER CATANACH: Okay.

MR. KENDRICK: And I might reiterate that the production from the Wolfcamp is not what you would consider to be average.

THE WITNESS: Right, the State Number 3 is not typical Wolfcamp production. The other three wells that we brought into evidence average 15 or 16 barrels a day themselves.

Q. (By Examiner Catanach) Okay, that was my

next question. What do you expect to get from the Wolfcamp in these four recompletions?

A. Initially we expect some -- You know, it's not reasonable to expect that the first month it might average a hundred barrels a day.

But they drop so rapidly that within a very short period of time they're going to be in the 15- to 20-barrel-per-day range, in a matter of months.

Q. You don't expect to encounter any more Wolfcamp production like you encountered in the Number 3 well?

A. It's not expected. It's not an impossibility. It would be welcome, but it's kind of a fluke in this area.

Q. If you did encounter such production, how would you propose to handle that?

A. If we were to find a Wolfcamp well in one of these wells similar to the Deep State Number 3, I would expect that we would postpone commingling that well until it had produced -- declined down to a point more conducive to the others.

If you end up with a hundred barrels a day, you don't want to really mess with it until it's necessary.

Q. Is the Wolfcamp formation, is that a high-

water-production formation?

A. It appears to be essentially the same. This doesn't appear to be any more or less wet than the Pennsylvania there; they have similar rates.

Actually, it's somewhat lower, with the exception of the State Number 3. It's producing 145 barrels of water per day, but the fracture system would -- could account for that as well.

Q. Okay. So that's not generally typical --

A. Right.

Q. -- of a Wolfcamp completion?

A. Typical Wolfcamp is -- The other wells are averaging about five barrels of water per day.

MR. KENDRICK: If I might interject, it might be useful for you just to give the figures, the oil and water figures from the three Wolfcamp wells that are not subject to this Application but that are nearby.

THE WITNESS: Okay, I have those here.

Q. (By Examiner Catanach) Why don't you go ahead and give those to me?

A. The Amoco State Number 3, the Wolfcamp producer, December, 1992, 20 barrels of oil per day, three barrels of water per day, 40 MCF per day.

Q. Okay.

A. The Yates State Number 1, Wolfcamp producer,

December 1992, eight barrels of oil, one barrel of water per day, 12 MCF per day.

Q. Okay.

A. The Kriti -- K-r-i-t-i -- 31, Number 1, Wolfcamp producer, December 1992, 21 barrels of oil per day, 11 barrels of water per day, 35 MCF per day.

Q. Okay. Mr. Hawe, you referenced an earlier application. Have you already made application to downhole commingle three additional wells?

A. These three wells, three Wolfcamp producers have been part of an application that was sent in administratively.

Q. Has that been approved?

A. I am not aware of the status of that yet.

Q. And I believe you testified that the ownership within the two zones on all the wells is common?

A. Yes, it is.

Q. Mobil is the only working interest owner?

A. Mobile is the operator. Mobil is not the only working interest owner.

Q. Okay, but the working interest ownership is common?

A. Yes, it is.

Q. Okay. And these are all state leases

involved?

A. I'm not aware of the type of leases they are. I believe that -- I don't know the answer to that.

Q. Okay. On your Exhibit Number 6 packet, it looks like you've got checked off state leases on all these well completions. That doesn't necessarily mean everything is on state leases, but --

A. I believe they are, but I just am not certain. I've not had a chance to really go over some of the particulars with the landman, but I'm going to assume they are.

Q. Okay. The Commissioner of Public Lands has its own regulations regarding downhole commingling, and I believe you're going to have to file an application with them to do this procedure. That's my understanding. So you might want to check with them, Mr. Kendrick, after the hearing.

If in fact these are all state leases, they're under the jurisdiction of the Commissioner of Public Lands.

Our approval is not contingent upon their approval, but we generally like to see you at least have talked to them or notify them or something.

MR. STOVALL: After you've talked to them, if you'd let us know what -- if they give you an approval

or any conditions, just submit a copy of it.

MR. KENDRICK: Okay, we will.

EXAMINER CATANACH: I did talk with a representative yesterday, and they were aware of the Application this morning. That was Mr. Pete Martinez. So you might want to talk to him about what you may need to do with them.

Q. (By Examiner Catanach) Mr. Hawe, these are all currently pumping, and they will remain being pumped --

A. Yes, sir.

Q. -- upon commingling?

A. (Nods)

Q. And the allocation, you propose just to utilize the subtraction type method to determine Wolfcamp production?

A. Uh-huh.

Q. Do you plan -- When you do the Wolfcamp recompletions, do you plan to do any additional work to the Pennsylvanian?

A. There is none planned.

Q. So nothing to enhance the Pennsylvanian production?

A. No.

Q. So it shouldn't change?

A. It should not change, no.

Q. Have you looked at the value of the crude from each zone, and will that be diminished by commingling?

A. It will not be diminished. The value of the crude is based on its gravity. They are similar composition content. The gravity, the blend, is obviously some ratio mixture of the two. It currently is being sold as a blend. All the crude is commingled at the surface as per the surface commingling permit that we do have, so that nothing will change as far as that.

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

MR. STOVALL: I have no questions.

FURTHER EXAMINATION

BY MR. KENDRICK:

Q. Final question, Mr. Hawe: About how long ago did you submit the administrative application for the other three -- commingling the other three wells in this field?

A. It was, I'm going to say, three weeks ago, maybe four, give or take. I'm not certain of the actual date, but it was within the last month.

MR. KENDRICK: Okay, thanks. And Mr.

Examiner, I understand there was a -- some inadvertence in the notice that went out to, I think, the Lovington paper. Ms. Davidson informed me of this, that the wrong date was what was put on the hearing notice, the date of May 16 rather than May 6, which I understand means we have to hold this open till June 3rd. Is that -- That's what Ms. Davidson informed me. I just wanted to --

MR. STOVALL: That's correct, Mr. Kendrick, yeah. The ad appeared, and Lovington typed a "1" in there in front of the "6", so that does...

MR. KENDRICK: Okay.

MR. STOVALL: Now, with respect to other notice, Mr. Kendrick, am I correct that you have not identified other operators, offset operators in these pools that required notice?

MR. KENDRICK: Correct, we identified three offsetting lease owners, and there are no wells completed into these two zones on those leases, so on that basis Mobil did not notify those three offsetting lease owners.

EXAMINATION

BY MR. STOVALL:

Q. And let me ask, Mr. Hawe, I mean, would there be any impact on offsetting undeveloped tracts, as far

as you're concerned, from commingling?

A. No, none whatsoever.

Q. It would not change production any way, really, drainage effects or --

A. It would not.

MR. STOVALL: Mr. Examiner, Mr. Kendrick and I discussed that before the hearing, and, you know, unclear -- The rule requires notice to offset operators, and you're simply saying there were -- there are no offset operators in these pools?

MR. KENDRICK: Correct.

MR. STOVALL: So I think that satisfies that, and as soon as we get the publication notice corrected, that will satisfy that requirement.

MR. KENDRICK: Okay, and I think Mobil is anxious to begin work on this commingling. And in view of the fact that there will be a hearing -- Well, the record has to stay open for four weeks until June 3rd. I guess Mobil would enter a plea that to the extent possible the Examiner could consider our Application, pending that -- the additional notice, so that hopefully the decision might not take as long after the 3rd as it would after the 6th today.

EXAMINER CATANACH: Okay, it's your understanding I cannot issue an order until after the

3rd?

MR. KENDRICK: Understand that, yes.

EXAMINER CATANACH: Okay, but you're requesting that just as soon as the 3rd passes, that an order be ready to go?

MR. KENDRICK: Right, and we'd appreciate that.

EXAMINER CATANACH: Okay.

MR. KENDRICK: I have nothing further.

EXAMINER CATANACH: There being nothing further, Case 10,727 will be taken under advisement -- I'm sorry, it will be continued to June 3rd.

(Thereupon, these proceedings were concluded at 9:17 a.m.)

* * *

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

_____, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL May 21st, 1993.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994