STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
25 May 1983

EXAMINER HEARING

IN THE MATTER OF:

Application of Yates Petroleum Company for an exception to Rule 104.C.I., Eddy County, New Mexico. CASE 7871

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 7871.

MR. PEARCE: That case is on the application of Yates Petroleum Corporation for an exception to Rule 104.C.I., Eddy County, New Mexico.

MR. DICKERSON: Mr. Examiner, I'm Chad Dickerson of Artesia, New Mexico, appearing on behalf of the applicant.

I'll swear two witnesses but call one, I believe.

MR. PEARCE: Are there other appearances in this matter?

Could I ask both possible witnesses to rise, please?

(Two witnesses sworn.)

MR. PEARCE: I just swore two and a half people.

MR. STAMETS: Mr. Dickerson, you, I presume, are the attorney in the next four cases --

MR. DICKERSON: Yes, sir.

MR. STAMETS: -- five cases?

MR. DICKERSON: Yes, sir.

MR. STAMETS: Five cases. Do you have

differing witnesses in each of those?

MR. DICKERSON: I have one additional witness.

MR. STAMETS: Let's have all of them that are going to appear in these five cases stand and be sworn and then we will have everybody sworn.

(Other potential witnesses sworn.)

DAVID BONEAU,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. DICKERSON:

Q. Will you state your name, your occupation, and where you reside, please?

A. My name is Dave Boneau. I work for -- as Engineering Manager for Yates Petroleum in Artesia, New Mexico, where I also live.

Q. Mr. Boneau, have you previously testified before this Division as an expert witness and had your qualifications made a matter of record?

A. Yes, sir.

Q. And that is as a petroleum engineer?

A. Yes, sir.

Q. Mr. Boneau, would you briefly summarize the purpose of Yates'application in this case?

A. The purpose of Yates'application is to seek permission to drill a fifth well on each 40-acre spacing unit within the Eagle Creek Field in Eddy County, New Mexico.

I think it would help to state my idea of it, is that the fifth well is not going to be on the edge, it's going to be more than 330 feet from the boundary of the spacing unit and the idea is to end up with four wells at regular spacing and one well in the middle, roughly, of each 40-acre spacing unit.

Q. But this does require an exception to the ordinary rule that defines development of oil wells, does it not?

A. That's correct, yes, it does.

Q. Mr. Boneau, have you caused to be compiled, either by you or under your supervision, certain documents upon which you intend to rely?

A. That's correct, yes, sir.

Q. Would you refer to the sheaf of instruments which are collectively marked Exhibit Number One, and first, with regard to the top of that exhibit, describe what is pert-

inent to this application on that map?

A. Okay. I'm going to present four reasons why we think it's a good idea to allow this fifth well.

The first reason is based on bottom hole pressures. Then I'm going to talk a little bit about core permeabilities, about production history with other infill wells, and lastly about one case where we previously were allowed to drill a fifth well on a 40-acre test, and talk about the results of that test.

So the first page is a map of the Eagle Creek Field. There are numbers under a large number of the wells, which indicate the bottom hole pressures measured at those wells in, roughly, December of 1982 and January of 1983. These are after shut-in periods of one to two months.

The purpose of this exhibit is to say that the new wells encounter high bottom hole pressures,almost virgin bottom hole pressures, and these are wells, that we're talking about here, are the fourth well drilled on a 40.

I'd call your attention to the south, southeast of the southeast of Section 22 where there's a Federal "BW" No. 13 Well which encountered a bottom hole pressure of 370 pounds. It's surrounded by wells with bottom hole pressures of 90, 120, and 200 pounds.

Another example up in the southwest of the

southeast of Section 14, there's a well, Jackson "AT" 13 that we drilled recently; downhole pressure 340 pounds. It's a direct offset to a well with a 110 pound bottom hole pressure.

In general, if you look through the map, the new wells encounter nearly virgin bottom hole pressures and the fourth well on a 40 is reacing parts of the reservoirs that are not being drained, and I think it's an easy step to say that a fifth well will encounter something similar.

Q. Mr. Boneau, you mentioned that you would make reference to a situation shown on this map where Yates has already drilled in one instance a fifth well on a 40. Would you direct the Examiner's attention to that well, please?

A. Yes. That well occurs in the southwest of the northeast of Section 22 in the J Lazy J lease there's a 40 acres that includes Well Nos. 3, 6, 9, 11, and then in the middle of that spacing unit there is a well, J Lazy J 13, which was drilled as a fifth well on that 40 acres under a special ruling of the Commission in 1976, I believe.

Q. Mr. Boneau, approximately how many wells in this Eagle Creek San Andres Field are producing at the present time?

A. Approximately 200 wells are producing.

Q. Okay. Is there anything further you'd like to add with regard to the top page of Exhibit Number One?

A. No, sir.

Q. Mr. Boneau, if you'd refer to the next portion of that exhibit and point out for the Examiner what information you feel is pertinent on those charts.

A. Okay. The next three are similar charts, showing bottom hole pressures as a function of the age of the well in months when the well was drilled.

The first one refers to a lease called Jackson "AT" and the new well has approximately 350 pounds bottom hole pressure and there's a fairly nice curve dropping off to bottom hole pressures around 150, 100 psi, for wells that are ten years old.

The next sheet is a similar thing for another lease, Federal "BW" and the same kind of trend; the new wells have higher bottom hole pressures regardless of whether they're fourth well, fifth well, second well on the 40.

The third page of that set is the same type data for all the wells in the Eagle Creek Field at which we have bottom hole pressures, and again there's scatter in the data but in general the new wells have almost virgin bottom hole pressure.

Q. Do you have an exhibit, Mr. Boneau, or a portion of this Exhibit Number One, which bears upon the

permeability and porosity of the producing formation in the field in question?

A. Yes. The next page just happens to be that exhibit, Chad.

And it's a bunch of squiggles of permeability and porosity which you don't need people to go through, but this a well called -- a newly drilled well, Winters "DN" No. 4. There are little dots with lines attached to them which try to indicate the perforations and the point of it is that the average permeability of the rock in the perforated intervals is .5 millidarcy. It's a low permeability formation; it's a shallow formation. Calculation says that to drain this kind of permeability if the oil was there is to drain 10 acres it's going to take -- the calculation actually says 100 years. Of course the wells are fractured and it doesn't take that long, but the core permeability just indicates that it's a tight reservoir and you might need more than four wells per 40 acres to drain it.

That's the whole point of that exhibit.

Q. Turn to the next page of your Exhibit Number One, Mr. Boneau, and discuss for the Examiner what's relevant on that document.

A. Okay. The next page is a rather long production history of the field from its start in 1970 to the

present time and it's -- it shows the barrels of oil produced for each one as a function of time and there are also notations which indicate when new wells were drilled.

The point of this exhibit is simply to say that the drilling of new wells has always obtained additional oil, additional reserves, and you'll note that the present production in March and April of 1983 is the highest that the field has ever reached. It's between -- April it produced about 1025 barrels a day, and that's the most the field has produced in its approximately 13-year history.

These new wells do find additional reserves of oil.

Q. Now, Mr. Boneau, you've previously mentioned to the Examiner the J Lazy J Well which Yates had completed as a fifth well on a 40-acre tract in this field. Would you refer to the last page of your exhibit and summarize what your testimony is --

A. Yes.

Q. -- regarding that exhibit?

A. This last page kind of summarizes the situation with this J Lazy J No. 13.

By Order Number R-5242, as a result of a hearing on July 27, 1976, Yates was allowed to drill this fifth well on a 40 with the stipulation that the production

be kept in a separate battery.

The well was completed in August of 1976. It is surrounded by four producers, which had been producing previously to that. This well, the only example I have of a fifth well on a 40, has produced since that time 19 -- well, 18,500 barrels, and will probably produce about 20,000 barrels of oil in its life.

This is an economic well and, well, we ran some -- some economics at drilling cost and $28 a barrel oil and that kind of oil makes $50 or $60,000 and is an economic -- economic venture and we feel that fifth wells on some of the other forties in the unit would be economic ventures which would lead to improved oil recovery from the field.

Q. Mr. Boneau, in your opinion is the drilling of a fifth well on all or some of these 40-acre tracts necessary in order to efficiently and economically drain these 40-acre tracts?

A. Yes, sir, it is.

Q. In your opinion will the amending of this order insofar as this field is concerned to allow Yates to drill that fifth well on each tract result in the recovery of additional oil which would otherwise not be recovered?

A. Yes, it will.

Q. And in your opinion would the granting of

this application otherwise be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

A. Yes, sir.

MR. DICKERSON: Mr. Examiner, at this time I move admission of Yates Exhibit Number One.

MR. STAMETS: The exhibit will be admitted.

Q. Mr. Boneau, is there anything else you'd like to add regarding any of this testimony?

A. Okay, (not understandable) was mentioning that almost all wells in this field are operated by Yates Petroleum. All except four wells are operated by Yates Petroleum. There's very little chance of conflict.

Q. Indicate where those four wells are, if you would, by reference to your map.

A. Those four wells are in the southwest quarter of Section 28 at the far southwest corner of the field. They're operated by Mr. Grynberg.

MR. DICKERSON: Mr. Examiner, that concludes our direct testimony.

MR. STAMETS: Are there any questions of the witness?

QUESTIONS BY MR. QUINTANA:

Q. Mr. Boneau?

A. Yes, sir.

Q. On those -- that new well that you've given in the last part here, the decline rate on that -- on that fifth well, was it comparable to the other wells or was it at a much faster rate?

A. I would say it was -- it was faster. I would not call it much faster. It was a little bit faster than the normal wells.

Q. What I was trying to get at was an increase in the depletion rate of your field or else -- I was trying to get --

A. Yes.

Q. -- an indication whether --

A. It produced --

Q. -- it was an increased rate or --

A. No. It produced a larger pecentage of its reserves in the first two years than do the other wells. That is true. I don't know if that was true of all the others but --

Q. So it's possible that even though it did recover additional reserves, it could be a slight acceleration

of the reserve recovery of that area.

A. Yeah, I think it's more than a slight acceleration. I think it's a -- I'm not sure what you're getting at, but --

Q. Well --

A. I really don't think that the four wells there would ever get all that oil. They eventually would get some of it.

I'm going off on the wrong track, I think.

Q. Yeah, well, you answered my question. It's going to recover additional reserves and it wasn't just an accelerated depletion schedule that you were trying to get at by drilling the -- I think you answered my question.

A. No, sir, that's -- what you say is correct.

MR. STAMETS: Any other questions? The witness may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7874 heard by me on 5-25 19 83.

Richard L. Stamets, Examiner
Oil Conservation Division

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