

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1964

EXAMINER HEARING

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IN THE MATTER OF: Case No. 2659 being reopened)
pursuant to the provisions of Order No.)
R-2347-A, which continued the original order)
establishing 80-acre proration units for the)
North Bagley-Wolfcamp Pool, Lea County, New)
Mexico, for an additional year. All)
interested parties may appear and show cause)
why said pool should not be developed on)
40-acre proration units.)
-----)

Case No. 2659

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 2659.

MR. DURRETT: In the matter of Case No. 2659 being reopened pursuant to the provisions of Order No. R-2347-A, which continued the original order establishing 80-acre proration units for the North Bagley-Wolfcamp Pool, Lea County, New Mexico, for an additional year.

MR. CHRISTY: Sim Christy; Hinkle, Bondurant and Christy, for the Applicant, Cabot Company.

(Witness sworn.)

W. M. SARGENT, JR.

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Give me your name, address, occupation and by whom you are employed and what capacity?

A W. M. Sargent, Jr., Petroleum Engineer for Cabot Carbon Company in Pampa, Texas.

Q Have you been previously qualified by this body and had your qualifications accepted by the Commission?

A I have.

Q Mr. Sargent, I believe that this matter initially started about two years ago on pool rules for the North Bagley-Wolfcamp, and in 1963 an order was entered continuing the 80-acre

spacing portion of that rule and providing for the matter to come on to be heard again in October of '64, and for the operators to show cause, if any, why they should not be put on 40-acre spacing, is that correct?

A That's correct.

Q You previously testified in the other hearings in connection with these pool rules, have you not?

A I did.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q Now, Mr. Sargent, I refer you to what has been marked as Applicant's Exhibit 1, which appears to be some type of plat map. Would you identify the plat and tell us what it depicts?

A This is a plat of the North Bagley field showing the wells completed in it. The wells entirely circled in red are the presently producing Wolfcamp wells. The wells with the half-red circle around them are the wells which have had significant Wolfcamp shows while drilling.

Q Then as I understand you, there's still only the three wells that there were previously--

A Yes, sir.

Q -- that are producing?

A This is correct.

Q So, we have no other wells in the pool, is that correct?

A That's right.

Q Since the last hearing?

A That's right.

Q Do you feel the field is fully developed at this point?

A I do. The only possible further production would be in Cabot Corporation's Dallas No. 1 in the southeast of Section 15, and possibly in Dean Stoltz Guye No. 1 in the southeast of the northeast of Section 22.

The Stoltz well was tested during completion and they could not make a completion in it at that time, so they abandoned the Wolfcamp zone and completed in the **Pennsylvanian**.

The production of these wells does not justify the drilling of additional wells in this area for the Wolfcamp production.

Q As I see on Exhibit 1, it appears that Cabot is the owner of the working interest in the surrounding acreage with the exception of the northwest quarter, the south half northeast, and the south half of Section 22, and the east half of Section 23, is that correct?

A That is correct.

Q And you don't plan any additional drilling?

A No.

(Whereupon, Applicant's Exhibit No. 2 was Marked for Identification.)

Q I refer you to what has been marked as Applicant's Exhibit No. 2, and ask you if you'll please identify that exhibit and tell us what it depicts with reference to this case?

A Exhibit 2 is a calculation of the reservoir volume which would be contained under four 80-acre allocation units. I averaged the net pay thickness in the four Cabot wells.

Q Are you testifying from Exhibit 2 or Exhibit 3?

A You have this marked 2.

MR. NUTTER: Also, if you would, mark the date because this is the same case number.

MR. CHRISTY: I will.

A I averaged at an average thickness for the four wells of Cabot of 18-1/2 feet. Further assuming that each of these four wells would drain 80 acres, I multiplied the thickness times the 320 acres and arrived at a reservoir volume of 5,995 acre feet.

As indicated by the oil in place calculation, there is approximately 151 barrels of oil per acre foot in place in the reservoir.

Assuming a recovery factor of 25 percent, which is

a fair factor for a solution gas drive reservoir, the recoverable oil calculates to be 223,500 barrels.

I then extrapolated the decline curves on the Cabot Humble-State No. 1, State L No. 1, and Thompson No. 1.

Q Those are the three producing wells as shown on the plat, Exhibit 1?

A These are the three producing wells. To an economic limit of 100 barrels per day per well, or 100 barrels per month per well, and some of these total estimated recoveries and arrived at a figure of 222,655 barrels.

This is in very close agreement with the calculated recovery of 223,500 barrels for the 320 acres. From this I deduced that these wells will effectively drain 80 acres.

Q In other words, Exhibit 2 shows two methods of calculation arriving at approximately the same answer, is that correct?

A That is correct.

Q Did you testify that the 25 percent if a fair assumed recovery factor?

A Yes, sir, I did.

Q And it seems to be borne out by your recovery calculations shown in the second part of Exhibit 2?

A Yes, sir.

(Whereupon, Applicant's Exhibit 3 marked for identification.)

Q I'll ask you if you'll refer to Applicant's Exhibit

3 and identify it and tell us what it depicts with respect to the matters involved in this case?

A Exhibit 3 is a copy of the exhibit presented last year concerning the rock characteristics and reservoir characteristics of the North Bagley-Wolfcamp Pool.

There have been three changes made on this exhibit under net pay, 19-1/2 feet, which is the average of the four Cabot wells. Then, under the economics based on the Humble State No. 1, the reserves here have been increased to 55,150 barrels for 40 acres and 110,310 barrels for 80 acres.

This is the estimated ultimate recovery from the Humble State No. 1 well.

As shown, the operators' gross revenue before Federal Income Tax on 40-acre spacing is \$164,000.00 for expenditure of \$130,000.00. On 80-acre spacing, the operators' gross revenue would be \$330,000.00 for the same \$130,000.00 expenditure. This would allow us to make a fair return on our investment.

Q I believe on the State L No. 1, for example, the recovery factor would be about 1.9 to 1?

A I believe this is correct.

Q On 80 acres?

A This is correct according to an economic analysis I have made.

Q These figures are before operating expenses and taxes?

A Yes, sir.

Q Do you therefore have an opinion as to whether or not it's economically feasible to develop the North Bagley-Wolfcamp Pool on a 40-acre basis?

A We would not develop on 40 acres.

Q You do not feel it's economically sound?

A No, I do not feel it's sound at all.

Q Then I will ask if the granting of permanent rules for 80-acre spacing in this pool would tend to avoid waste including economic waste?

A Yes, sir, it would.

Q Do you have a recommendation to the Commission with respect to 80 versus 40-acre permanent rules of the North Bagley-Wolfcamp Pool?

A It is my recommendations that the temporary rules now in effect be made permanent for the North Bagley-Wolfcamp Pool.

Q Were Exhibits 1, 2, and 3, prepared by you or under your direct supervision?

A Yes, sir, they were.

MR. CHRISTY: That's all I have for this witness.

MR. NUTTER: Any questions of Mr. Sargent?

MR. DURRETT: I have a question, please.

CROSS EXAMINATION

BY MR. DURRETT:

Q What is the allowable on an 80 for this pool?

A I believe it's 187 barrels a day; it has a factor of 4.77.

Q 4.77?

A Yes.

Q It's coming out someplace about 180?

A Yes.

Q Are these wells making that?

A No, sir.

Q What were they making?

A The Humble State Well is making approximately 45 barrels per day; the State L, approximately 40 barrels per day, and the Cabot Thompson, approximately 11 barrels per day. This has been a poor well since the beginning.

Q They're just about making a 40-acre allowable now, is that correct, I mean the good ones?

A No, we're not even making a 40-acre.

Q Not even making the 40 with the depth factor?

A The depth factor allowable would be approximately 150 barrels per day.

MR. DURRETT: I think that's all I have.

BY MR. NUTTER:

Q You stated that Stoltz had tested the Wolfcamp in his well. Did Cabot test the Wolfcamp in the Dallas well?

A On a drill system, it tested oil and gas.

Q You don't have any contemplated drilling plans?

A Not in this area. If there is any additional drilling to be done, I think it will be done in the southwest of 15, probably on a wildcat or Pennsylvania extension basis.

Q Do you think that you may recomplete the Dallas well in the Wolfcamp?

A It is my feeling that we have probably depleted this zone, or are depleting this zone to the presently depleted wells.

Q And the wells to date have produced approximately 155,000 barrels, is that correct, and you estimate there's about 220 some thousand barrels recoverable total oil?

A Yes, that is correct.

MR. NUTTER: Are there further questions of the witness? He may be excused.

(Witness excused.)

MR. CHRISTY: At this point we would like to offer into evidence Applicant's Exhibits 1, 2, and 3.

MR. NUTTER: Applicant's Exhibits 1, 2, and 3 dated 10/28/64 will be admitted in evidence.

(Whereupon, Applicant's Exhibits
1, 2, and 3 were offered and
admitted into evidence.)

MR. NUTTER: Does anyone have anything they should
like to offer in Case 2659? We will take the case under
advisement and call Case 3133.

I N D E X

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E X H I B I T S

<u>Number</u>	<u>Marked</u>	<u>Offered</u>
1	3	11
2	5	11
3	6	11

I hereby certify that the foregoing is a true and correct copy of the deposition of W. M. Sargent, Jr., taken on the 10/28/64, at Albuquerque, New Mexico, before me, a Notary Public for the State of New Mexico.

[Signature]
Notary Public

Oil Conservation Council on

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 6th day of November, 1964.

Ida Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2659, heard by me on 10/28, 19 64.

....., Examiner
New Mexico Oil Conservation Commission