

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 8, 1975

EXAMINER HEARING

-----)
 IN THE MATTER OF:)
)
 Application of Cities Service Oil)
 Company for pool creation and special)
 pool rules, Eddy County, New Mexico.)
 -----)

Case No.
5397

BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

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For the Applicant:

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MR. STAMETS: Call the next case, Case 5397.

MR. CARR: Case 5397. Application of Cities Service Oil Company for pool creation and special pool rules, Eddy County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox, Santa Fe, New Mexico, appearing on behalf of Cities Service Oil Company and I have one witness to be sworn.

MR. STAMETS: The Witness will stand and be sworn, please.

(Witness sworn.)

DONALD W. CATRON

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please state your name, by whom you are employed and in what capacity?

A I'm Don Catron, I work for Cities Service as a Reservoir Engineer in the Southwest Regional Office in Midland, Texas.

Q Have you previously testified before the Commission?

A No.

Q What is your educational background, Mr. Catron?

A I have a Bachelor of Science in Petroleum Engineering from the University of Kansas.

Q When did you obtain that degree?

A 1969.

Q Since obtaining your degree, where have you been employed?

A I worked for a year as a Production Engineer in Russell, Kansas, and following that I worked for a year in the Research and Development Division in Tulsa, Oklahoma, and for a year and a half I was on the reservoir staff at the headquarters office in Tulsa and for the last year and a half I have worked as a Reservoir Engineer in Midland.

Q Have you made a study of and are you familiar with the facts surrounding this Application by Cities Service?

A Yes.

MR. KELLAHIN: If the Examiner please, are the Witness' qualifications acceptable?

MR. STAMETS: They are.

BY MR. KELLAHIN:

Q Mr. Catron, would you refer to what has been

marked as Applicant's Exhibit No. 1, identify it, and state briefly what Cities Service is seeking?

A Well, the three wells inside the green square there are the wells we are applying for and the other wells circled in red are also Wolfcamp wells, and we're applying for temporary rules that would classify this as a gas field on 320-acre spacing.

Q What does the green line indicate?

A That's our Russell Unit.

Q Would you please refer to what has been marked as Exhibit 2 and identify it?

A This is production data from 2 of our 3 wells in the Russell Unit. I believe this shows that the wells are producing from a gas reservoir. The Government "T" Well was completed last May and has produced a GOR of around 4000 since then. Government "Z" was just put on in the middle of December and has produced at about the same GOR.

Q What conclusions do you draw then from this Exhibit, Mr. Catron?

A Well, this, together with our fluid analysis indicates to us that it's a gas reservoir.

Q Refer to what has been marked as Exhibit No. 3

and identify it?

A These are the conditions under which we took our fluid sample from the Government "Z" Well. The sampling depth was at 8814, which was about 400 feet above the perforated interval. The temperature was 152 degrees and the sampling pressure was 4635 psi, and the gradient which extrapolated to the perforated interval is a formation pressure of 4825.

Q Would you refer to Exhibit 4 and identify it?

A Exhibit 4 is a fluid analysis of the sample we took from the well. It shows mostly methane and ethane in the gas and ethane and propane liquid. The gas gravity isn't entered on here -- I mean the oral gravity isn't entered here it's 52 degrees api and the translucent fluid is light yellow in color.

Q Again then, what conclusions do you draw from this Exhibit?

A This, together with some additional fluid studies we have done indicates that it's a condensate-type fluid --

Q (Interrupting) And therefore a gas reservoir?

A Well gas, and under initial conditions.

Q All right, sir. Would you refer to Exhibit No. 5 and identify it?

A Exhibit 5 is a pressure analysis of the fluid samples on the Government "Z" Well and the second column there shows the percent liquid that present on the sample as the pressure was lowered from the sampling pressure. This is characteristic behavior of a condensate-type fluid. The initial reservoir pressure was slightly above this first pressure entered on this table and indicates that under initial conditions the reservoir fluid is a gas and it has a dew point.

Q In your opinion then these are characteristics of a retrograde condensate reservoir?

A Right.

Q How does this data compare with the characteristics of other Wolfcamp production?

A Other Wolfcamp wells, especially the ones to the north on the map, Figure 1, the Dorchester Well and the Penrock Well, have produced like a typical condensate reservoir.

A I would like to turn your attention now to the specific special rules that you would recommend to the Commission for this particular pool. First of all, let me begin by asking you if you have any preference for a designation or a name for the pool?

A I believe we prefer the North Burton Flats Wolfcamp.

Q Your requested pool is in what relation to the Parkway West Field -- or let me say it the other way around -- where is the Parkway West Field in relation to the subject area here?

A It's north and east of the area we are talking about.

Q The Parkway West Field has rules for Atoka and Strawn production?

A Right.

Q Would it be your recommendation that the Commission should adopt similar rules as set forth in the Parkway West Field Rules?

A Yes.

Q And that includes the provision for 320-acre spacing?

A Correct.

Q What is your basis, Mr. Catron, for your recommendation of 320-acre spacing?

A We are asking for temporary rules and we want a year to study this and see if that's the optimum spacing.

Q The Parkway West Field has well locations designated in it of 660 and 1980. Those are also the state-wide rules. Would you recommend that that be the well locations for this new pool?

A Yes.

Q Do you have any recommendations with regard to this schedule for testing for GOR or bottomhole pressure tests of any kind? Do you have any preference of how they should be scheduled?

A We don't have any specific requests.

Q Would it be compatible with your thinking that tests should be taken within the next year so that when this temporary rules come up for hearing within the -- at the expiration of the one-year period you would provide the Commission with that data at that time?

A We have an opportunity coming up within the next two months to get bottomhole pressure data.

Q In addition to the rules suggested, the suggested rules as I just outlined them to you, Mr. Catron, do you have any recommendations as to production rates?

A We recommend 1500 cubic feet per day gas rate.

Q It's 1.5 million?

A 1.5 million, excuse me.

Q Okay. 1.5 million cubic feet. In your opinion will this be the most optimum rate of production that would then give you the highest ultimate recovery?

A Yes.

Q In reference now to Exhibit No. 1, the green line indicated here is certainly not the extent of the proposed pool but it's rather the size of your Russell drilling unit, is that correct?

A That's right.

Q In your opinion, Mr. Catron, will the approval of this Application be in the best interests of conservation, the prevention of waste and protection of correlative rights?

A Yes.

MR. KELLAHIN: We move the introduction of Exhibits 1 through 5.

MR. STAMETS: Exhibits 1 through 5 will be admitted.

(Whereupon, Cities Service's Exhibits 1 through 5 were admitted into evidence.)

MR. KELLAHIN: That concludes our direct case.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Catron, did you have any tests which indicate communication between these wells?

A No, we don't.

Q Do you have any tests that don't indicate communication?

A We produced the Government "T" Well since last May and we haven't seen communication with either of the two new wells to the south. That's one of the things we can study during the 1-year period.

Q I don't believe you presented any geological evidence as to the potential extent of the formations; whether they covered 320 or 160 or 640. Would you anticipate presenting such information at the end of the year?

A We could, but I feel like our production data that we could gather during that period would be more valuable for that kind of purpose.

Q I believe that the record in other Commission cases would show, relative to the Penrock area in Section 35, 19, 28, that those Wolfcamp wells were completed in smaller isolated Wolfcamp reservoirs and they were -- they are being developed on 160-acre spacing because of the

smallness of those. It would seem like some geological evidence would be appropriate in this case since it is so close to the south.

A Well, you say they did present evidence that the reservoirs were limited in size?

Q Yes.

A Well, we've looked at the production history of these wells and they did decline in production very rapidly and we're not sure that it wasn't because they drilled them too close together. That's one of the reasons we want time to look at it.

Q These wells are connected, or very soon will be, and so 1 year from the date of the Order will be a proper length of time for temporary rules?

A Yes.

Q And you're interested in having the prorationing and balancing rules essentially the same as the West Parkway Rules?

A Right.

MR. STAMETS: Any other questions of the Witness?

MR. KELLAHIN: If the Examiner please, I would like to call Mr. Motter as a witness to provide additional testimony on the question of 320-acre spacing.

MR. STAMETS: Have Mr. Motter stand and be sworn, please. This Witness may be excused.

(Witness sworn.)

E.F. MOTTER

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please state your name, by whom you are employed and in what capacity?

A I'm E.F. Motter, I am with Cities Service Oil Company, Engineering Manager of the Southwestern Region in Midland.

Q Have you previously testified before this Commission, Mr. Motter?

A Yes, I have.

Q And are you familiar with the facts surrounding this particular Application?

A Yes, I am.

MR. KELLAHIN: Are the Witness' qualifications acceptable?

MR. STAMETS: They are.

BY MR. KELLAHIN:

Q Mr. Motter, I would like to direct your attention to the specific question of Cities Service's request for 320-acre spacing. Would you direct yourself to that question and provide us with your opinion as to why 320-acre spacing should be granted on a temporary basis?

A Yes, but, if I may, I would like to divert from that particular question for just a minute to answer a question that Mr. Stamets asked on the development of the Wolfcamp in this area. As you see, Mr. Catron has outlined in red the present wells that are producing or completed in the Wolfcamp. Now, our Government "AA" is dually in that well, that's in Section 23, we're waiting on a gas connection at that point. If you look over in Section 15 and 22, the Government "T" and the Government "U" are both drillstem tested in the Wolfcamp; they are not dually but we do have quite favorable Wolfcamp tests from drillstem tests and feel we can make wells there. Also, in Government "W" down here it was not drillstem tested, however, we think there is probably pay there from the electric log. But, as you come on down into these wells in the Burton Flats area, which Monsanto has drilled,

these are Morrow wells, and the logs do not look favorable for production. So, it looks like it is perhaps a somewhat smaller area. Now, our Government "Y" to the north up in Section 11 is not drilled or tested. We drilled it, probably before we abandoned the Morrow, however, we will test the Wolfcamp. It does not look at this time like it's connected with the wells on to the north, and I don't believe, unless it has happened recently, that those wells up to the north have ever been classified into a field of any kind.

I might also, as a matter of information, say why we talked about this field thing. This is our Russell Unit, and this is what we refer to it as when we talk about wells. However, this has nothing to do with the Commission and personally I would like to have something we could tie it down to as an area, rather than just say "Burton Flats Wolfcamp." As you are aware, the Burton Flats is quite a large area and I believe if you look way down to the bottom there, I don't know if the section is in there, but the next township south below Section 2 -- I believe Monsanto Wilderspin is either completed; I'm not sure it is producing from a Wolfcamp -- but you can see there is some Wolfcamp pay so it would be rather broad if

you just say, "Wolfcamp," and that is the reason maybe if we tied it down as North Wolfcamp or North Burton Flats, you would have some idea.

Now, back to your question on 320-acre spacing, historically the Wolfcamp is not a very prolific producer. It comes pretty fast and it goes pretty fast. On this basis we do not think at this time with the knowledge that we have we could probably economically justify single completion to the Wolfcamp Formation. On that basis we would like to ask for 320-acre spacing. The proration units will coincide with the Morrow proration units. As Mr. Catron pointed out, we feel under an emergency contract out here right now. Unless that is renewed this will give us time to take more tests and financially we want to gain as much information as we can about this reservoir to see if other wells can be justified. But, at this point, I don't think that we, in good faith, could go out and drill another well to the Wolfcamp on 320-acres, and cut it to 160.

Q Do you have any other comments with regard to the proposed special rules as outlined in the previous testimony?

A No, except I might just briefly comment on our

recommendation for maximum rate here. We feel that a retrograde condensate reservoir such as this can sometimes be damaged -- I'm not saying all of them will but if you pull them too hard they possibly can. If you will note we have produced this Government 'T' No. 1 about as high as 1.9 million a day, but we feel perhaps that 1 and a half might be a more satisfactory rate during this temporary period.

I think you can see or look over Mr. Catron's data that came out of our Research Department. As you pull this bottomhole pressure down at first the condensate percentage gets greater but it rapidly decreases also as the pressure goes down.

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

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Motter, the advertisement in this case may have referred to the Government "T" Well solely, but if we would create a 320-acre pool for the Government "T" that would put the boundary of that pool within a mile of the northern well in Section 23 and then that well would be within a mile of one in the South half of Section

23, and they would all be bound by the special pool rules you proposed. It would appear that the most logical creation would be a pool including all of Section 14 and all of Section 23?

A Well, Mr. Stamets, I don't know what transpired, but our Application included the 3 wells in the two sections.

Q Yes, I notice that looking at your Application. I don't foresee any problem since the end result would be the same.

A And I don't know why it was advertised that way for that was the way our Application was filed.

MR. STAMETS: Anything further in this Case?

MR. KELLAHIN: No, sir.

MR. STAMETS: The Witness may be excused. We will take the Case under advisement.

