BEFORE THE

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

February 5, 1969

EXAMINER HEARING

IN THE MATTER OF:

Application of the Oil Conservation Commission upon its own motion for an order granting an exception to the ninth paragraph of Chapter II, Section 2, of Order No. R-333-F.

Case No. 4039

BEFORE: Daniel S. Nutter,
Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 4039, which is the application of the Oil Conservation Commission upon its own motion for an order granting an exception to the ninth paragraph of Chapter II, Section 2 of Order No. R-333-F to permit shutting in gas wells for the required shut-in tests at some period during the 1969 test season other than immediately following the seven-day deliverability flow test; further, to permit measuring the shut-in test pressure during the eighth to fifteenth day of shut-in of the well rather than on the eighth day as presently required. The above exceptions would be for the 1969 annual deliverability test season only, and would be applicable to all wells in San Juan, Rio Arriba, McKinley and Sandoval Counties, New Mexico, subject to the testing requirements of Chapter II of Order No. R-333-F.

Mr. Hatch, do you have a witness in this case?

MR. HATCH: I have one witness, Mr. Emery Arnold.

(Whereupon, Commission's Exhibit Number 1 was marked for identification.)

E. C. ARNOLD

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

DIRECT EXAMINATION

BY MR. HATCH:

deliverability of values to be used in allocation formulas in those pools where we use deliverability as a factor in the proration formula.

Q Are all gas wells in northwestern New Mexico tested?

A Yes. Order R-333-F requires that all wells be tested. However, we do exempt certain wells from tests, based upon low productivity. This is done upon the terms of proration orders, which provide that based upon certain productivity levels, wells below that will be not required to test.

Q What particular part of Order No. R-333-F are we concerned with in this case?

A Chapter II, Section 2, paragraph nine.

Q Would you explain to the Examiner the present testing procedure required by that order?

A Well, present testing procedure is that a well is based on production for a two-week conditioning period. Then it is flowed the third week, and the third week is the flow period. During this flow period, the flowing pressure is taken at the well head meter, so that any necessary meter corrections can be made.

Then at the end of this flow period, the order requires that the well be shut in for seven consecutive days, and that the shut-in pressure be measured then during the next 24 hour

period. This shut-in pressure is then used with the working pressure from the well, the average daily rate of flow, the slope of the back pressure curve to calculate the deliverability of the well in Mcf per day. This deliverability as expressed, is the amount of gas that a well is capable of producing into the well bore at a pressure equal to a fixed percentage of the well shut in pressure.

In the San Juan Basin, we use deliverability pressure of 80 per cent of the shut-in pressure for Mesa Verde and Pictured Cliffs wells, and a 50 per cent of the shut-in pressure on Dakota gas wells.

Q All right. What are you specifically proposing in this case?

A I am proposing that this paragraph to which we referred have an exception granted for the 1969 testing period, to the provision which requires that a well be shut in immediately following the flow period.

In other words, that this shut-in pressure measurement can be taken at times other than immediately following the flow period.

Q Do you also have any suggestions as to when that measuring is to be done of the shut in?

A Yes, the present order states that it should be

measured within 24 hours following the end of the seven-day shut in, and I am recommending that we change that to read that it can be measured from the eighth to the fifteenth day, and that it simply be a minimum of seven days, but that we need the added flexibility of being able to measure it possibly two weeks after it is shut in rather than just a week.

Q Why do you think such exceptions are necessary?

A Well, what brought on the problem was market conditions in the San Juan Basin, which have been such during the last year that most of our -- that it has been necessary to produce most of our gas wells most of the time. In fact, as you know, we had after a hearing entered an order last August which suspended the balancing rules in all our prorated pools up there. The reason for this was it was feared that on wells connected to El Paso Natural Gas Company, particularly, that if we force curtailed wells to be shut in, that they might have trouble meeting their market demand during the fall and winter of 1968-1969.

Then in December, several hundred wells were scheduled for flow test during the month of December, for shut-in in January, as is the usual procedure. And during the flow period, El Paso determined that they simply weren't going to be able to shut all those wells in that they had scheduled and still meet

their high market demand at the moment, so they sent word out to all the testers that they needn't take the flow data during the flow period, because they were not going to be able to take the seven-day shut-in as required by the order. Therefore, it would be wasted effort to take the flow data.

It was at that time we contacted El Paso representatives to find out what the situation looked like, as far as the next several months, and they told us that it appeared that it was going to be late spring or early summer before there was any change in their market picture, and that probably all wells scheduled during at least the first four or five months of the year would run into this same difficulty. Southern Union also had a heavy winter demand, and it looked like at least a large majority of the wells that they had scheduled for test, we would also be unable to shut in. And that is what caused the calling of this case.

We decided that if we could go ahead and make use of this, of the flow period that we have scheduled at the present time, in other words, all these, we certainly have no problem at the moment in getting flow data, because all wells are producing. But if we can at a later date shut the wells in and get a shut-in pressure to go with that flow data, then we can save rescheduling the entire test in the latter part of the year.

We were afraid also that if we delay all the testing into the last six months of the year, that we would probably arrive about next November and suddenly discover that we had several hundred wells that we didn't have tests on, or maybe even several thousand.

Q Would there be any adverse effect upon the accuracy of these tests by delaying of the shut-in pressure tests?

A On some wells, if we measure a shut-in pressure three or four months after we have taken a flow data, there will be some reservoir depletion. But between the time of flow and the time of shut-in, this would have the tendency of making the shut-in pressure lower, which would cause a higher calculated deliverability.

However, there is also the situation that it is possible that next summer some of these wells will not be producing so heavily as prior to the time they are shut in, and this may be due to stabilization characteristics of our wells up there, causing those pressures to be higher at a later date than they would have been if they were taken immediately following a high, heavy production period. So I don't think that you can say that all the pressures are going to be lower or all the pressures are going to be higher. I don't think that the shut-in pressure differences are going to

be large enough to be particularly significant in a test calculation.

Q If a test does indicate that it is out of line with what it should be, there are procedures whereby the well can be retested?

A Yes. Under R-333-F, you can ask for a retest on tests that you think are not accurate tests, representative tests.

Q Will there be any problem in scheduling these shut-in tests?

A Yes, there will be some difficulty. We have discussed this with the pipeline companies, and they have agreed, or they think that they will be able to do this additional scheduling, which would cause additional paper work, because there will be quite a number of wells that will have to be scheduled twice, once for a flow period and once for a shut-in period. I am recommending that all scheduling be done exactly as it is being done now, that is by the pipeling company after consulting with the operator. They agreed on a test period, and then the pipeline company submits a schedule to the Commission. However, insofar as the time involved on submitting a schedule, particularly on these late shut-ins, I would recommend that they be required only to get us the schedule prior to the time the shut-in pressure is measured, because it is going to be a little

difficult to anticipate ahead of time exactly when we are going to be able to accomplish all this.

I think we should have scheduling flexibility, and as long as the Commission is notified prior to the time the pressure is measured, then if they want to witness a pressure or go take the pressure, we will be able to do that, which is all that is necessary.

Q Have you prepared an exhibit to show the Examiner, which has to do with the number of tests that would be required in the northwest?

A Yes, I have an exhibit which is a summary of the classification status taken as of November 30, 1968. This shows the total number of wells in the San Juan Basin, and they are broken down into pools, and further listed under pipeline companies in ascending order of number of connections.

This shows the total number of wells, the total marginal wells, the total exempt marginal wells, the total number of marginal wells which are not exempt, the non-marginal wells, and the number of wells on which tests are required, and the number of over-produced wells.

One reason we drew up this summary was to further indicate from the over-produced column, particularly, that we may get into difficulty from that later in the summer if we

don't get this flow data on a lot of these wells now. In other words, if we do have to balance these pools out by next August 1st, and we have a total of 1,631 over-produced wells which require test, unless we already have gotten the flow data on most of those 1,631 wells prior to next July or August, then obviously we are going to have to over-produce them further in order to get a deliverability test.

So this is another reason that it appeared to us we needed to get these flow tests now.

Q This exhibit only has the prorated gas pools on it, is that right?

A That's right. And it shows there is a total of 6,659 prorated wells up there, and tests are required on 4,887 wells. And 3,246 of those wells requiring tests are non-marginal wells; 1,641 of those wells requiring tests are marginal. There are a total of 1,772 exempt marginal wells.

Q Do you have anything further you would like to add?

A I don't think so.

MR. HATCH: I would like to offer Exhibit 1 into evidence, and that is all the questions we have.

MR. NUTTER: Commission's Exhibit Number 1 will be admitted in evidence.

(Whereupon, Commission's Exhibit Number 1 was admitted into evidence.)

THE WITNESS: I have several extra copies of these that we can pass around to anyone who would like one.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Arnold, did this dilemna, as far as being able to take these tests this winter, result from the pipelines scheduling an abnormally high number of wells for tests during this period of time, or the number of wells that were scheduled for test, is that the usual number that is scheduled every winter?

A That is right. As I understand, there wasn't anything unusual about the number of wells that they scheduled for test.

Q What is unique during this winter is the market demand situation?

A Right, and that is just about all.

Q And the Commission has previously recognized that this is a period of unusual market demand for the wells in the San Juan Basin, and has in fact suspended the shut-in and cancellation rules for a one-year period for those wells up there, is that correct?

A Right.

Q Which is, incidentally, subject to review at the regular Commission Hearing in February?

A That's right, I believe.

Q I think we are pretty clear on why you want the shut-in pressure to be taken at some time other than immediately following the flow test. But would you explain in a little further detail, Mr. Arnold, why you would take the shut-in pressure on the eighth to the fifteenth day rather than on the eighth day following shut-in?

A I actually think that this should be a permanent amendment to the order at some future time. I think that we should only require a minimum of seven-day shut-in on a well. We have had situations arise in the past where for some reason the shut-in pressure wasn't measured until maybe the twelfth or the fourteenth day. Technically, by the terms of the order, this would make it an invalid test, because it wasn't measured on the eighth day. But there is certainly nothing that an operator can gain by measuring it on the twelfth day instead of the seventh. It is simply closer to stabilized reservoir pressure. So that measuring a pressure over a longer period of time than seven days doesn't do anything to invalidate the pressure.

The reason I am recommending it now, particularly, is because we anticipate that -- well, in the first place, we

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The reason I am recommending it now, particularly, is because we anticipate that -- well, in the first place, we

don't know what the market conditions are going to be this summer. A lot of these wells are going to have to be shut in on short notice, or there is going to be added confusion because of it all, and we wanted to make sure that we didn't break additional tests just because of this high requirement in measuring the shut-in.

Q This would be the eighth to the fifteenth consecutive day of shut-in, would it not?

A Right. However, we are not saying that an operator wouldn't have the option of measuring it the way the order now specifies on the eighth day. We would just extend that.

Q It can be measured the eighth, but up to the fifteenth, according to your proposal?

A Right.

MR. NUTTER: Any questions of Mr. Arnold? You may be excused. Do you have anything further, Mr. Hatch?

MR. HATCH: No.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4039?

MR. EATON: George Eaton for Pan American Petroleum Corporation. Pan American supports the amendment to Rule R-333-F, as proposed by Case 4039.

MR. RAINEY: D. H. Rainey with El Paso Natural Gas.

Because of the market demand situation alluded to here, we concur in the recommendations of the Commission staff that the rules be suspended, as recommended under Order R-333-F for the year 1969.

MR. NUTTER: Thank you. Any other statements?

We will take the case under advisement, and call a fifteen-minute recess.

I N D E X

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, SAMUEL MORTELETTE, Court Reporter 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.

COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4039 heard by me on 9/5 69.

New Mexico Oil Conservation Commission