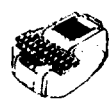
BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 28, 1961

CASE 2314



BEFORE THE
OIL CONSERVATION COMMISSION
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EXAMINER HEARING

IN THE MATTER OF:

Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, to permit its Shell State Well No. 1-A, located 380 feet from the North line and 380 feet from the West line of Section 36, Township 24 South, Range 36 East, Lea County, New Mexico, to remain classified as a gas well in the Jalmat Gas Pool, with a gas-oil ratio below 100,000: 1.

Case 2314

BEFORE:
Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. MORRIS: The Case 2314, Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, Jalmat Gas Pool, Lea County, New Mexico.

MR. SETH: Oliver Seth appearing for the applicant. We have one witness, Mr. Morris.

(Witness sworn.)

(Marked Applicant's Exhibits Nos. 1 through 5 for identification.)

CHARLES P. ST. LAURENT

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

DIRECT EXAMINATION

BY MR. SETH:

Q Are you employed by Shell Oil Company?

A I am employed by Shell Oil Company.

Q What capacity, and what are your duties?

A Division Reservoir Engineer, responsible for proration and reserve estimates in Shell's Roswell Division, New Mexico.

Q Are you generally familiar with your State Well No. 1-A in Section 36, 24 South, 36 East?

A I am.

Q Have you testified previously before the Commission or an Examiner?

A I have.

MR. SETH: May he testify?

MR. UTZ: Yes, sir; he may.

Q (By Mr. Seth) Would you state, please, for the Examiner the general purpose of the application of Shell in this case?

A Shell is in this case making application for an exception to the gas-oil ration provisions of Rule 26 (a) which requires that any well producing with a ratio of less than 100,000: 1 should be classified as an oil well. Through a unique situation Shell asks exception to this Rule in order to continue to produce State 1-A as a gas well with a gas-oil ratio below 100,000: 1.

Q Do you have an Exhibit showing the location of this

well?

A I have.

Q Referring to what has been marked Exhibit No. 1, would you state, please, what this shows?

A Exhibit No. 1 is a location plat depicting our current crucial interpretation to the top of the Yates and identifying the acreage identified to State's Well 1-A which well is shown circled in red on the plat; and the aforementioned acreage is shown outlined in green. As depicted on this plat, Well State 1-A is located on the cross of a local culmination in the Yates and is on the west edge of the central basin platform.

Q Your contours, as appearing on Exhibit 1, are they Yates contours?

A Yes. They are contours on top of the Yates.

Q Now, have you anything further to state with reference to Exhibit No. 1?

A Not at this time.

Q You have an Exhibit microlog for this particular well?

A I have. Exhibit No. 2

Q Referring to Exhibit No. 2, would you tell the Examiner, please, what that shows?

A Exhibit No. 2 is the annotated microlog of Shell State 1-A, and indicated thereon is the top of the Yates -- 2696 feet, and the casing seat of 5½-inch casing seat. The approximate plug-back total depth of the well being 2744 feet; and shown shaded in

red are the porous stringers throughout the open hole producing section of the Yates.

Q You have taken some tests on this well. The data from these tests shows a production is being obtained from what intervals?

A At the present time, the production is being obtained based on this test data from the open holed interval from the top of the Yates section. It is a 148-foot open hole interval, ranging from the top of the Yates to the depth datum of 148 feet.

Q How much net pay is in that section?

A This interval contains some 9 to 10 feet of net pay occurring in 8 stringers throughout the open hole section which range in thickness from 6 to 24 inches.

Q Could you give us a little bit of a background on the well, a little bit about its history and the completion data and any workovers that have been done on it?

A Shell State 1-A was completed on February 12, 1953, as a Yates Gas Well with a calculated open flow potential of 5.35 million cubic feet per day and no liquid production. It produced at normal rates for a period of three years until March of 1956, at which time the well began making large quantities of water. On May 9, 1956, on a special test the well produced 1427 barrels of oil plus 302 barrels of water; and the following day the well died. Now, I might mention, in referring for a moment to Exhibit 2, that the production at this time that I just referred to in 1956 was

obtained from the complete section from the Yates down to total depth. The plugback total depth shown occurred as a result of the treatment in March 1956 wherein workover operations were initiated to eliminate this water production. And, the well was treated with a diesel oil cement squeeze to shut off the water and resulted in the plugback total depth of 2844. At the time of this workover, in 1956 and prior to treating the well, a formation packer was set at approximately 2700 feet being at the top of the Yates there. And, selective tests from above and below the packer resulted in minor amounts of gas and water production from above the packer and significant amounts of water production with a small amount of gas from below the packer. As I previously stated, then during the month of June of 1956, the well was squeezed with diesel cement to shut off water production. This treatment did eliminate the water production and it certainly inhibited the production of gas. The stabilized capacity, after the diesel oil squeeze, amounted to approximately 500 MCF of gas per day with no liquid. In order to attempt to return the well to its previous gas productive status the well was acidized at that time to improve the deliverability. The resulting deliverability amounted to approximately 550 MCF per day. The well then produced free of liquids until March of 1960, at which time the well was sand fract with 20,000 gallons of refined oil plus one and a half gallons of gaseous sand. This treatment resulted in an increase in deliverability from 510 MCF per day to 7900 MCF per day. On a final flow test, after this treat-

ment on April 1960, the well flowed 2763 MCF per day with a flowing tubing pressure of 749 PSI and no fluid production. For the following six months the well produced at monthly gas rates ranging from 20 million cubic feet per month to as high as 60 million cubic feet per month with no fluid production. However, the capacity appeared to be declining, and later wire line tests indicated the tubing was plugged with sand. During August of 1960, a unit was moved in to clean out the sand in the tubing and open hole, and during this operation some 700 barrels of oil and 90 barrels of salt water were required to maintain the well under control in order that we could pull the tubing and attempt to remove the sand. After baling out the sand, the well was put back on production; and during the following month and a half the well produced liquid intermittently, with total fluids ranging from zero to 120 barrels, and totaling from 40 to 50 per cent water.

Q Do you have some data showing the relation of this well to others by way of an Exhibit, a cross section?

A I have, sir.

Q Now, referring to what has been marked Exhibit 3, would you tell the Examiner, please, what this other Exhibit shows?

A Exhibit 3 is an east-west section running through Shell State 1-A and originating from Texaco's Aug A-2 No. 1 which is located in this central portion of Section 35 running from that well east to Texas Pacific Coal & Oil Watkins 1, to Shell State 1-A, to Shell State No. 1-B, and to Shell State No. 2-A.

The cross section is annotated and presents the treatment and performance history to Shell State No. 1-A indicating the completion in February of '53 and the deliverability at that time; and the subsequent production tests at the time the well started to produce water. These tests, referring to the Exhibit, are shown as P.T. production tests. In March '56, it produced approximately 120 barrels of oil and 80 barrels of water with a ratio of 10,700. In April of '56, from the open hole interval 2636 to 942, production 5 barrels of oil plus 105 barrels of water. And, May '56 was when the well died; and previous tests stated earlier, 27 barrels of oil plus 302 barrels of water. The record continues to show what operations were performed at that time prior to the diesel oil cement squeeze. And, as shown, the well was treated, squeezed with 100 sacks of DOC, diesel oil cement. And, following an intermittent test, the well was again squeezed with 100 sacks of diesel oil cement, and a third treatment which finally shut off the water and resulted in a plugback depth of 124. I believe the rest of it is pretty general.

Q Do you have any comment on this well with relation to the others as shown on Exhibit No. 3?

A I have. The cross section indicates the Shell State No. 1-A is the highest well structure in the area. It has an elevation of plus 585 feet. The next highest well in the area is the Texas Pacific Coal & Oil Watkins 1 with an elevation of plus 579 feet.

MR. UTZ: You are speaking of the top of the Yates now?

THE WITNESS: The top of the Yates; yes, sir.

Q (By Mr. Seth) The next highest well is shown on this same Exhibit, is it not?

A Yes. Texas Pacific Coal & Oil Watkins 1 is shown on the same Exhibit, being the first well of the Shell State 1-A.

Q Now, do you have any comment on the other well shown, or --

A As indicated on the cross section, Texas Pacific Coal & Oil Watkins 1 is currently classified as a Jalmat Oil Well, and through the information available we discerned its present capacity amounts to 56 barrels of oil plus 355 barrels of water with a ratio of 7030 cubic feet per barrel. The well, referring again to the cross section, produces from roughly the same type and equivalent -- that being a tingert sandstone with occasional streaks of calorious dolomite.

Q Is that pretty much characteristic of the Yates production in this area?

A It is; yes, sir.

Q In connection with the well which is the subject of this hearing, have you prepared a graph showing the rate of the production with relation to the allowables?

A I have, sir. That would be Exhibit No. 4.

Q Referring to what has been marked as Exhibit No. 4, would you tell us, please, what that Exhibit shows?

A Exhibit No. 4 is an annotated graphic plat reflecting the monthly gas allowable and gas production of Shell State 1-A, and also indicates the gas-oil ratio from the date of completion to the present time.

Q Now, the solid line appearing on this Exhibit 4 is the rate of gas production; is that right?

A Yes, sir. The solid line shown across the top of the Exhibit is the monthly gas production.

Q What is the dotted line?

A The dashed and dotted line, shown coinciding with the solid line, is the monthly gas allowable.

Q Where is the gas-oil ratio shown?

A The gas-oil ratio for the two periods of liquid production -- that being in 1956 and 1961, is shown in dashed lines at the base of the Exhibit, and its scale in GOR in cubic feet per barrel at the right-hand side of the Exhibit.

Q Are they results of deliverability tests as shown on this Exhibit, also.

A The results of the deliverability tests are shown in heavy arrows on this graph.

Q They are shown at 100,000 line; is that right?

A Yes. They are shown, referring to the right-hand scale, shown at the 100,000 line.

Q Now, does this Exhibit indicate that you have had two periods of difficulty with liquids in this well?

A It does, sir.

Q Now, would you elaborate on that, please.

A As may be noted from the notations across the top of the Exhibit, the well produced from the date of completion to the previously mentioned time of when the well started making large volumes of water in 1956, produced at a monthly rate ranging from 2 million to 68 million cubic feet per month with no liquids. At the time, the water production -- again there is a note showing the diesel oil cement squeeze treatment and the subsequent plug-back of 2844 in addition to the treatment were 1500 gallons of acid to restore the well to capacity. The next notation of significance is the sand fract treatment in March of '60 wherein the open hole section of 2636 to 2821 was treated with 20,000 gallons of refined oil. And, you will note the deliverability before and following as indicated: 10 to 79 over 4, and then the six months' interval of liquid free production at rates ranging from 20 million cubic feet per month to as high as 60 million cubic feet per month. The occurrence of sand, or the clean-out shown there of the sand.

Q Your deliverability began to decline, did it not?

A That is right. This is what called our attention.

Q And then you had the clean-out?

A Yes, sir. And, following the clean-out, wherein we

were required to load the hole with oil and water in an effort to control it while working on it, the liquid production -- as shown by the dashed line at the bottom -- occurred following this clean-out of the sand. The final notation of the graph is that referring to an increase in acreage factor from 1 to 1.25, which was approved by Commission Order NSP-549 in March of 1961.

Q Do you have any other comments on this Exhibit --

A No, sir.

Q -- No. 4?

A No, sir.

Q Have you compiled some further data on this well --

A I have, sir.

Q --to draw-down and other factors?

A We have compiled special and specific test data on the well.

Q Is that Exhibit No. 5?

A Shown as Exhibit 5; yes, sir.

Q Would you tell us, please, what this Exhibit shows?

A Exhibit No. 5 is a graphic representation of recent production test data on Shell State 1-A.

Q Excuse me. Would you mind starting at the top and explain -- are the three different graphs on this one Exhibit?

A There are three different graphs. The top graph has been prepared to reflect the flowing surface of the pressure -- that would be the solid line shown on it, solid connected lines

shown on the graph. And, it does reflect the flowing surface pressure and different rates of gas production. Across the top of the graph is shown as static shut-in well-head pressure being 829.2 PSI for ease in referring to draw-down. The 5 per cent and 10 per cent draw-down lines have been constructed on the graph based on the 829.3 PSI shut-in pressure and the indicated flowing pressures under various test conditions.

Q Immediately under this data in the center, what is shown there?

A Immediately under the aforementioned data, we have presented the gas-oil ratio of the well as a function of the different producing rates. The solid line on this central plat represents the 100,000: 1 and is the minimum GOR specified by Rule-26 (a) for a gas well.

Q Now, across the bottom of the exhibit --

A Across the bottom of the Exhibit we have represented by a solid line the gas producing rate in MCF per day. And, in addition, below the top solid line we have shown the water production and the oil production for the various tests. These liquid producing rates are in barrels per day and their scale is shown on the inside of the left of the graph paper.

Q All these three graphs are related to each other, are they not?

A Yes, sir. They are all tied to specific tests on the dates shown across the bottom of the graph.

Q And they show the performance of the well at different rates of production; is that correct?

A Yes, sir. They reflect the changes in the various perimeters presented as a function of rate of gas production.

Q Now, generallyhow has the well performed? Has the gas production increased or decreased; and in what magnitude does any change occur?

A The graph reflects that, in general, below a rate of 1500 MCF per day there are no liquids produced. There are no liquids produced at this less than 1500 MCF per day. Correspondingly, a rate of 1500 MCF per day does not occasion a draw-down of greater than approximately 7 per cent, but when the rate is increased to in excess of 1500 MCF per day whereby --

Q Can you give us a particular example on Exhibit 4 where this comes about?

A Well, if we could refer to March 17 on the example, and starting from --

Q What year?

A March 17 of 1961. Starting from the bottom of the graph first, we note that some 20 barrels -- 15, excuse me, some 15 barrels of oil, some 17 to 18 barrels of water were produced at a gas rate of approximately 1420 MCF per day, resulting in a corresponding ratio of some 93,000 cubic feet per barrel for a corresponding draw-down in flowing surface pressure of approximately 12½ to 13 per cent.

MR. UTZ: What date was that?

THE WITNESS: March 17 of 1961.

MR. UTZ: You are referring to Exhibit 5, aren't you--

THE WITNESS: Yes, sir.

MR. UTZ: --rather than 4?

A Yes, sir. This is Exhibit 5.

Q (By Mr. Seth) Can you give us another example referring to Exhibit 5?

A We can go back to, say, March 14 of 1961, when there were no liquids produced to test, with a gas rate of approximately 1660 MCF per day. The gas-oil ratio, with no liquid, would be infinite; and a corresponding draw-down amounted to approximately 5 per cent of this static shut-in well-head pressure.

Q Take another one where there is a significant amount of fluid production?

A In April 3, or on April 3 of 1961.

Q You are referring to Exhibit 5?

A Again referring to Exhibit 5. You will note that approximately 80 barrels of oil were produced, and some 155 barrels of water were produced. The gas production rate amounted to some 1650 MCF per day. The corresponding gas-oil ratio amounted to 22,000 cubic feet per barrel, and the draw-down approximately 12 per cent of static shut-in well-head pressure. It will be noted that following the high rates of liquid production there are tests shown for the month of June of 1961 -- referring specifically

to June 7 of 1961, on Exhibit 5. You will note that there was no liquid production, that gas -- that daily gas rate had been reduced to some 440 MCF per day; corresponding ratio is infinite and draw-down at that time -- The draw-down at that time should be shown on Exhibit 5 and is approximately 4 per cent.

Q Generally, how does the well perform as to the production of liquid as related to the rate of gas production?

A As reflected by Exhibit 5, in general, when the draw-down reaches or exceeds 10 per cent, liquid production is initiated in the well. Correspondingly, when the daily rate reaches or exceeds 1.5 million a day, liquid production is initiated in the well and slowly increases in the rate -- is increased as the gas rate is increased. When the gas rate is decreased to roughly 1.5 million cubic feet per day or less, liquid production ceases and the well produces at dry gas. It would be noted from Exhibit 5 that the liquid production is, in general, coincidental with the occurrence of, or the achievement of a 10 per cent draw-down in Shell State 1-A.

Q Would you describe this performance as being somewhat unusual for a well in the Yates?

A Yes; in that when the rate is reduced to less than 1.5 million feet a day, the well produces no liquids at all, and it is only when we exceed this rate that liquid production occurs.

Q And, do you believe that these unusual conditions and unusual performance warrants an exception to the Jalmat Rule 26

(a) in this case?

A Yes, sir. In view of the foregoing discussion and the unusual nature of the well, we are requesting exception to Rule 26 (a) in order to continue to produce State 1-A as a gas well should the GOR fall below 100,000: 1. The well is a high-capacity gas well as reflected by the deliverability tests, and the Yates top in this well is the structurally highest well in this area of the Jalmat Gas Pool.

Q And do you believe that if the exception is granted and the well is continued as a gas well, this will still be in accordance with good practices?

A Yes, sir; definitely.

Q Do you have any further recommendations or comments?

A No, sir; none at this time.

MR. SETH: We would like, Mr. Utz, to introduce Exhibits 1 through 5 at this time.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record.

MR. SETH: And that is all the direct we have.

EXAMINATION

BY EXAMINER UTZ:

Q Is the name St. Laurent?

A Yes.

Q What would you say is the maximum liquid or oil producing capacity of this well?

A I don't believe I could estimate the maximum without tests of much higher rates than we have here. But, at average rates based upon the rates of the production shown on Exhibit 5 -- and the well had not been tested, you know, in excess of thes rates -- the maximum, or average oil production under sustained 10 per cent drawn-down amounts to approximately 75 barrels per day.

Q Which would be in excess of the oil well allowable?

A Which would be in excess of the oil well allowable.

Q So, the allowable, say, with 34 barrels, you would only have a gas allocation of 340 MCF per day?

A Yes, under which conditions the well would produce no liquids.

Q That would be a gas well under those conditions?

A Right.

Q Then, what has your daily gas allowable as a gas well been running?

A Well, for the first half of 1961, referring to Exhibit 4, the average gas allowable has been approximately 25 million cubic feet per month.

Q Which is something like 800,000 or 900,000 a day, right?

A Right.

Q What is the ~~graphite~~ of this liquid?

A The liquid, the oil has an 83-~~OI~~ graphite.

Q Pretty heavy.

A Yes, sir.

Q I believe you stated that this well was completed throughout the other Yates interval?

A Yes, sir; from the open hole interval from the casing seat and 2636 feet to total depth of 2562 feet was the original open hole interval of the well.

Q Now you are plugged back to 2844?

A Yes, sir. Now we are plugged back to 2844.

Q Why did you plug back to 2844? -- To shut off liquid?

A Yes, sir; that was a diesel oil cement squezze at that time, and the result in plugback effect was the function of where the cement was set up, not to any specific depth. It was a consequence of the diesel oil cement squeeze.

Q Do you have any idea of the interval that is now open where the liquids might be coming from?

A No, sir; we have not. Referring to the previous testing we did at the time, the well was treated with diesel oil cement -- selectivity test -- and below the top of the Yates; and at that time we received a slight amount of water production and a slight amount of gas production from that porosity shown in the tank cell. So, we are relatively certain that the production is not occurring from up there, but we do not know where specifically the oil, gas, or water production is occurring from within the open holed interval being from the top of the Yates 2696 to plugback total depth 2844.

Q Your Exhibit No. 3 does not show where the Watkins No. 1 is perforated, does it?

A I believe, sir, that Watkins No. 1 is open hole, as it shows the casing sheets at approximately 2700 feet.

Q And that is producing as an oil well?

A Yes, sir; as an oil well.

Q How about your Shell State 1-B?

A The Shell State 1-B is an abandoned well, non-commercial producer. On drill stem test in January of 1952, the well produced a gas-to-surface in 19 minutes, and on tests we recovered some 240 feet of slightly gaseous sulphur water, and no completion was made.

Q The offset, north offset, which I believe is the Humble Southwest Harrison N-1, is it a Jalmat Gas Well?

A It is a Jalmat Gas Well.

Q And, how about the Northwest Diagonal Offsett, the Woolworth Well; who does it belong to?

A The Northwest Diagonal Offset is Texas Pacific Coal & Oil Woolworth 1.

Q Is that an oil well?

A It is a Jalmat Oil Well; yes, sir. It was converted to oil in January of 1960.

Q So it is really pretty hard, isn't it, to pin down what the actual GOR is on this well?

A Yes, sir. The GOR is a function of withdrawal rates.

Q So, when it is tested near the oil allowables it is actually tested as a gas well?

A Yes, sir. In fact, when it is tested significantly above an equivalent gas allowable for an oil well, it is tested as a gas well.

Q What would be your analysis, the phenomena taking place that causes this well to do that? I believe you stated that it was on a local high.

A Yes, sir.

Q Could it be that the well has produced enough gas to be pulling in the oil from around it now?

A I don't think so, sir, or if the encroachment of oil had reached the well in these upper stringers, then I believe we ought to be producing liquids at any rate of gas production. There are probably numerous explanations that might be offered -- one being: that when we fract the well, when we sand fract the well we create a fracture down into -- If you will recall, back before we squeezed the well, the well did produce some oil to moderate. At that time evidentally, since that time, since we have -- If we fractured down to any of those stringers then the high draw-down could be drawing the fract oil under the new fract. It might also be drawing oil and water through any of the small stringers shown within the open holed interval above the current plugback total depth.

Q Well, if the latter was the case, shouldn't this well have produced liquids ~~material~~ in its life?

A Yes, sir; because as I mentioned previously, the rates

at various times -- The monthly production achieved on something in the order of 60 million cubic feet which certainly would have been sufficient -- may be approximately 2 million a day, to draw in the oil and water if it were from the upper stringers.

Q Well, earlier in the life of the well it produced dry gas, did it not?

A Yes, sir; at rates ranging from 23 to 68 million a month.

Q So, the first analysis, it would seem to be probable, be more accurate; would you say?

A Yes, sir; that the fract treatment did in some way fracture into one of the low zones that formerly produced oil and water.

Q Opened up new reserves on the well bore?

A Yes, through the high draw-down it was pulled up through the fracture.

Q Now, are you familiar with the liquid gravities of other Jalmat Oil Wells in Jalmat's Pool? Do they run about the same as this one?

A I'm not certain, but I believe they do -- approximately anywhere from 30 to approximately 30 degrees.

Q Is this a sweep ~~curve?~~

A I think there is a very low percentage of hydrogen sulphide in the crude. The gas itself, the Yates gas tests from Shell State 1-A tests .5 or .58 of 1 per cent hydrogen sulphide.

MR. UTZ: Are there other questions of the witness?

MR. CAMPBELL: Mr. Examiner, may I ask a couple of questions -- Jack M. Campbell of Campbell & Russell, appearing on behalf of the Texas Pacific Coal & Oil Company.

What is your average gas allowable with your present one and a quarter unit for this well?

THE WITNESS: The average has been 25 million cubic feet per month.

MR. CAMPBELL: And what was the rate at which you said the well had to produce in order to produce liquids?

THE WITNESS: Exhibit 5 indicates that the rate would have to be sustained in excess of 1.5 million cubic feet per day.

MR. CAMPBELL: That is in excess of the gas allowable?

THE WITNESS: That is in excess of the gas allowable.

MR. CAMPBELL: What good would this order do you?

THE WITNESS: I don't understand your --

MR. CAMPBELL: How would you be able to produce liquids from this well classified as a gas well? I can't understand quite what you are seeking to do here.

THE WITNESS: One-half million a day and some 45 million a month, the average allowable at 25. The liquids do not occur until we approach 5 million a day. If the allowable were taken at 24-hours a day, 30 days a month, the average withdrawal rates would be an approximate 150 MCF and no liquid would be produced.

MR. CAMPBELL: You can produce it in such a way if

that allowable -- to produce your liquids --

THE WITNESS: We are limited by El Paso's preventions in withdrawing gas from the well. If we could in some fashion prevail upon El Paso to take at a regular rate, I don't believe the well would produce liquids in producing its normal monthly allowable.

MR. CAMPBELL: What are you seeking to accomplish if this application is granted?

THE WITNESS: Permission to continue producing Shell State 1-A as a gas well should at any time during the month the gas-oil ratio fall below 100,000: 1, due to an excessive rate of withdrawing in any given 6 or 12-hour period.

MR. CAMPBELL: Do you believe that there are any other wells in this area that by the similar treatment, such as the fract treatment that you mentioned, be put in such a situation that the same situation could be applicable to them?

THE WITNESS: Not having reviewed the performance and connections of the other wells I would hesitate to make a specific answer. But, based upon the productive capacities, recent productive capacities and monthly production of the offset oil well, it does not appear that they would be able to sufficiently increase their gas production to achieve the same status as this well. However, it may well be possible.

MR. CAMPBELL: If you had been able to produce this well under an order similar to the one you are seeking, say during

the last proration period, what production would you have obtained that you hadn't been able to obtain in this well? I am trying to get at exactly what you are seeking to accomplish by way of production from the reservoir if this order is approved. What change will it make? And, what you are permitted to produce in this reservoir, liquid and gas.

THE WITNESS: It would permit us to continue producing at the average monthly allowable of 25 million, I would say, but as far as the liquids are concerned that would be dependent upon the rates at which the gas was withdrawn. These tests are depicted on Exhibit 5 that were intentionally high-rated in order to evaluate the performance of the well under the high and low rates. The average rates of withdrawal -- and I haven't the data which states how El Paso took it at any one time, but the average rates of withdrawal over the past six months have been in accordance with the allowable. And, all I can say is if the gas had been taken each day, 24-hours a day, no liquids would have been produced. During this specific test period -- and that is shown on Exhibit 3 at the base of the annotation -- the well produced 1095 barrels of oil plus 33.477 million cubic feet of gas, but that was for the test period wherein we intentionally increased the rates. So, what liquid might have been produced under the provisions of the exception we are seeking is not the best. I don't believe I could answer with any degree of certainty.

EXAMINATION CONTINUED

BY MR. UTZ:

Q Is this well now in danger of being reclassified as an oil well?

A Yes, sir.

Q February '61 GOR?

A Well, based upon a deliverability, the last deliverability test submitted in achieving in 10 per cent draw-down, we produced some 47 barrels of oil and 40 barrels of water. That was the deliverability test dated May 1 to May 5, 1961.

Q Is there anything in the Commission Rules to require you to ~~state~~ file GOR's at the rate that you took them?

A Are you referring to special tests that are run or to deliverability?

Q No, to your regular GOR test?

A Yes. I believe the State requires a 10 per cent draw-down on the deliverability test in order -- and that is then the official GOR for the gas.

Q But, taking GOR's with the regulations for an oil well you would have a GOR infinity?

A Yes, sir.

MR. UTZ: Are there any other questions? The witness may be excused. Are there any other statements in this case?

MR. MORRIS: Mr. Examiner, I have a communication I would like to read into the record from the Humble Oil & Refining Company, signed H. L. Hensley by Henry E. Meadows. It reads as follows:

"In reference to Case 2314, Humble is opposed to Shell's request for exception to the gas-oil ratio provision of Order R-1670, Rule 26 (a). Humble's S. W. Harrison 1 in Section 25, T-24-S, R-36-E, directly offset by Shell's State 1-A, produces dry gas. It is our understanding that Shell State 1-A produces with a gas-oil ratio of approximately 20,000 cubic feet per barrel. Many Jalmat Oil Wells produce with similar ratios; for instance, the range of gas-oil ratios on Humble's Jalmat Oil Wells range from" -- It's garbled at this point -- "from 7212 to 40,386 cubic feet per barrel. Humble is opposed to Shell's request on the grounds that Humbles correlative rights would be violated if this exception were granted and further, the Shell State 1-A gas-oil ratio is not exceptional for wells classified as Jalmat Oil Wells.

MR. CAMPBELL: I would like to make a statement on behalf of the Texas Pacific Coal & Oil Company that the company owns a considerable amount of acreage offset in the vicinity of this well. Our principal concern about the granting of an application such as this is that it would set a precedent which we believe would create a situation in this zone portion on the

Jalmat Pool where other operators presently producing oil wells under the Rule limitations might be able by reworking and testing frequently their wells, come within the same type of exception. And, for that reason we oppose this inasmuch as we feel it would set a precedent that will perhaps get the situation out of control in that particular area of the Jalmat Pool.

MR. UTZ: Are there any other statements?

MR. SETH: Mr. Examiner, on that particular point I think the testimony and the evidence show that this is a unique situation. There is no indication that there are any other wells or can be any other wells in a similar category. Now, as far as setting a precedent is concerned, this is a typical situation where an exception should be granted, and is reasonably asked for. We have a very odd production characteristic on this well, and this is where an exception is needed. And, I think the witness has testified in response to the question that this is an unusual situation, and it is not indicated that other wells can be artificially placed in the same category, as Mr. Campbell indicated it might be. We feel this is a typical situation for an exception.

MR. UTZ: I would like to recall the witness for one more question, please.

Q (By Mr. Utz) Mr. St. Laurent, if the Commission reclassifies this well as an oil well, your next GOR test would be when? -- Around October?

A I believe so, latter part of this year.

Q And is it your opinion that when that GOR test is made as an oil well that it will again be more than 100,000: 1?

A Yes, sir. If we test the well as an oil well, we produce no liquids, so the GOR would be infinite.

Q Then, the Commission would be faced with the problem of whether to reclassify it again as a gas ~~allowable~~; would it not?

A Yes, sir.

MR. UTZ: The witness may be excused. Are there any other statements?

This case will be taken under advisement.

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, MICHAEL HALL, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill, and ability.

Michael Hall
NOTARY PUBLIC

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2117, heard by me on January 16, 1961.

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