BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1835: Application of Continental Oil Company for two non-standard gas proration units.

TRANSCRIPT OF PROCEEDINGS

JANUARY 6, 1960

NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing - Daniel S. Nutter

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE January 6, 1960 TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
ALBERT H GREEN	PAN AMERICAN PETR CORP	LUBBOCK TEX
John A Queen	Continental Oil	Roswell NM
E. D. COLTHARP	Continental Oil	Artesia, N.M.
Jason Kellahin	Kellahin & Fox	Santa Fe, N.M.
O. Seth	Seth, Montgomery, Federici & Andrews	Santa Fe
GUY BUELL	PAN AM	FT. WORTH
C R Marshall	" "	Farmington, N.M.
Frank E. Irby	State Engr Office	Santa Fe
William G. Abbott	RICE Engineering	Hobbs, N. Mex.
John B. Mason	EPNG Co	El Paso, Texas
S H Carney	El Paso Natural Gas	El Paso Tex
Garrett Whitworth	El Paso Natural Gas	El Paso, Tex.
G. Kirk Newman	Atwood & Malone	Roswell
James T. Jennings		Roswell
Don P. Stephens	Franklin, Aston & Fair, Inc	Roswell
[illegible]. E. ROBINSON, Jr.	TEXACO Inc.	MIDLAND
L. C. White	Gilbert, White & Gilbert	Santa Fe

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Application of Continental Oil Company for two non-standard gas proration units. Applicant, in the above-styled cause, seeks an order establishing two non-standard gas proration units in the Eumont Gas Pool, one consisting of the N/2 of Section 3, the other consisting of the S/2 of said Section 3, Township 20 South, Range 36 East, Lea County, New Mexico. Applicant proposes to dedicate the units respectively to its Reed A-3 Well No. 2, located 1980 feet from the North line and 660 feet from the East line of said Section 3 and to its Reed A-3 Well No. 3, located 1980 feet from the South line and 660 feet from the East line of said Section 3. Applicant further proposes the cancellation of an existing Eumont gas proration unit comprising the E/2 of said Section 3 and presently dedicated to the said Reed A-3 Well No. 3.

CASE NO. 1835

BEFORE:

DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please. The first case this morning will be case 1835.

MR. PAYNE: Case 1835. Application of Continental Oil Company for two non-standard gas proration units.

MR. SETH: Mr. Examiner, could I enter my appearance in two cases; Cases 1838 and 1848, together with Mr. Garrett Whitworth.

MR. KELLAHIN: If the Commission, please, Jason Kellahin of Kellahin and Fox, Santa Fe, representing the applicant.

We have three cases on the docket; 1835, 1836, and 1837, and have two witnesses, and we would like to swear both of them in at the same time.

(Witnesses sworn.)

JOHN A. QUEEN

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

DIRECT EXAMINATION

BY: MR. KELLAHIN:

Q Will you state your name, please.

A John A. Queen.

Q By whom are you employed, Mr. Queen, and in what position?

A Continental Oil Company, Division Engineer.

Q Have you previously testified before the Oil Conservation Commission as a petroleum engineer and had your qualifications accepted?

A Yes, sir, I have.

Q Are you familiar with the application in Case No. 1835 presently before the Commission?

A Yes, sir.

Q Would you review the facts of that case briefly, please?

A Continental Oil Company is applying for a cancellation of a 320 acre Eumont NSP assigned to the Reed A-3 No. 3 and for

a reassignment of two 320 acre Eumont NSPs to the Reed A-3 No. 2 and 3 Wells.

Q Where are these wells located?

A They are located in Section 3, 20 South, 36 East.

Q Now, referring to what has been marked as Exhibit No. 1, would you state what that is, please.

A Exhibit No. 1 is a location plat of the general area in the vicinity of the Reed A-3 Lease showing the structure using present Eumont gas proration units and the proposed gas proration units for the Reed A-3 No. 2 and 3 Wells. The structure is contoured on top of the Yates. The offset Eumont gas proration units in Section 3 are outlined in yellow; the present gas proration unit assigned to the Reed A-3 No. 3 is shown by the dashed green line, and the proposed proration units to be assigned to the No. 2 and 3 Wells are outline in red, solid line.

Q Now, will you describe the proration unit presently assigned to the Reed A-3 No. 3 Well?

A Let me make one correction if I may, please. The proposed NSP units are outlined in solid red and solid green, both. In regard to your last question, the present acreage assigned to the Reed A-3 No. 3 is the E/2 of Section 3, 20 South, 36 East.

Q Now, if this non-standard proration unit is cancelled, what acreage do you propose to assign to the well?

A It is proposed to assign the S/2 of Section 3 to the

No. 3 Well.

Q Now, what location, what is the location of the Reed A-3 No. 3 Well?

A This well is located 660 feet from the East line and 1980 feet from the South line of Section 3.

Q Will you describe the acreage presently assigned and that you propose to assign to the Reed A-3 No. 2 Well?

A The Reed A-3 No. 2 Well does not have any gas acreage assigned to it at the present time. We propose to assign the N/2 of Section 3 to the Reed A-3 No. 2 Well.

Q What is the location of the No. 2 Well?

A This well is located 660 feet from the East line and 1980 feet from the North line of Section 3.

Q Now, then, both these proposed units include acreage on the W/2 of the lease, is that correct?

A That is correct.

Q Do you have any evidence that indicates that the W/2 of the lease can reasonably be presumed to be productive of gas?

A Yes, sir. Exhibit No. 2 is a cross section, which I have already passed out, covering three wells lying in Section 3 and Section 9, both 20 South, 36 East. The Continental Sanderson B-9 No. 2, located in Section 9, is the well that is shown on the left-hand side of Exhibit 2. The Reed A-13 No. 3, the middle well, is a Eumont oil well located on the lowest portion of the lease structure. The well produces from the Queen forma-

tion, and from Exhibit 1, you can see that the contour lines run essentially north and south through this area of the pool.

Q Is this well typical of the wells on the western portion of the lease?

A Which well are you referring to now, sir?

Q The Reed A-3 No. 13.

A It is on the western, it is the lowest and typical of the wells producing from the western half of the Reed A-3 lease. In the next row of wells to the east of the Reed A-3 No. 13, the wells produced oil from the Penrose. In the next row of wells, oil production is limited to the lower Penrose and we are nearing the gas-oil contact in the Penrose formation. None of the wells on the W/2 of the lease produce oil from the Seven Rivers formation. In the Sanderson B-9 No. 2, which is the first well on the Exhibit No. 2, is a dry hole; however, during testing of the Yates and Seven Rivers formation, a show of gas was obtained, but the issue of gas was insufficient to make a commerical well. In all probability, the permeability controlled this. The Sanderson B-9 No. 2 is approximately 130 feet lower on top of the Seven Rivers than the Reed A-3 No. 13, and thereby any well on the Reed A-3 lease.

Now, Exhibit 3, which I have already passed out a copy, is a log comparison of the Reed B-22 No. 2 and the Reed A-3 No. 13. The Reed B-22 is located in Section 22, 20 South, 36 East, approximately eleven thousand feet south of the Reed A-3 lease.

This is depicted in the lower right-hand corner of Exhibit 3. On the log comparison, you can see the wells are structurally equivalent. The Reed B-9 No. 2 was completed in the Yates and Seven River formation on 10/16/56 as a Eumont gas well. The well is currently producing a total of 7,682 MCF of gas, to 12/1/59.

Now, because of this indicated gas production from the Yates and Seven Rivers formation from the Sanderson B-9 No. 2, which I previously stated was approximately 130 feet low structurally to the lower portion of the Reed A-3 lease and proven gas production from the Yates and Seven Rivers formation, from a well in a similiar structural position as the Reed A-3 on the western half of the Reed A-3 lease, I believe that W/2 of Section 3, 20 South, 36 East, can reasonably be presumed to be productive of gas.

Q Now, what factors influence your selection of a well for dual completion to develop this acreage?

A On Exhibit 1, all of the wells producing on the W/2 of the lease are pumping wells. The Reed A-3 No. 2 is a flowing well, so in this sense, it will be mechanically more desirable for dual completion in this well, and naturally, we wish to take as much advantage of structural position as possible.

Q In your opinion, would the granting of this application endanger correlative rights or conservation practices?

A No, it will not.

Q Will it result in a greater ultimate recovery of gas from the pool?

A In my opinion it will.

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

A Yes, sir, they were.

MR. KELLAHIN: At this time we wish to offer Continental's Exhibts 1, 2, and 3.

MR. NUTTER: Continental's Exhibits 1, 2, and 3 will be entered in evidence.

MR. KELLAHIN: That's all the questions I have.

MR. NUTTER: Does anyone have a question of Mr. Queen?

CROSS EXAMINATION

BY: MR. NUTTER:

Q Mr. Queen, aside from the fact that a well eleven thousand feet away and located in a similar structural position had an open flow potential of 265 MCF, what other evidence do you have that the W/2 of Section 3 is productive of gas?

A As previously stated in the testimony, the Sanderson B-9 No. 2, which is approximately two locations west of the subject lease, tested for a show of gas during actual completion tests, and this well is located approximately 130 feet lower than any well on the Reed A-3 lease. Furthermore,, I did not testify to -- Is that the Reed A-3 No. 3 that has the Yates and Seven Rivers opened in this well, as well as the Penrose? -- This zone was not individually tested.

MR. KELLAHIN: I believe you prefaced your question,

"that a well eleven thousand feet away? --

Q (By Mr. Nutter) Aside from the evidence that we had from this well which is eleven thousand feet south, is that not what you stated the approximate distance of the Reed 2 Well is down in Section 3?

A That is right. The Sanderson B-9 2 also produced gas at uncommercial quantities; however, it was 130 feet lower than the Reed A-3 lease.

Q The B-9 No. 2?

A Yes, sir, the B-9 No. 2. This well was tested in the Yates and Seven Rivers formations as shown in the Exhibit 2. The perforations from approximately 3,000 to 3,200 were tested individually, and gas was obtained, but not in commercial quantities.

Q What interval is open in the Reed A-3 No. 13?

A The Reed A-3 No. 13 is 1300 feet total depth as shown by the middle well on Exhibit No. 3. I would like to point out as additional evidence, in the past, the Yates and Seven Rivers formations have been gas productive. The Reed A-3 No. 3 has almost the entire Yates and Seven Rivers formations open.

MR. UTZ: That's the well dedicated to the unit?

A That's the well that has the E/2 of the unit dedicated to it.

MR. UTZ: This is gas --

A At the time this well was completed, as in most cases, there was no individual zone tested. The entire zone, based on zone analysis, was presumed to be gas productive and was opened up. This was done in 1956.

Q (By Mr. Nutter) When the No. 13 Well was drilled, was any evidence encountered of gas in the Yates or the Seven Rivers?

A There was no testing done.

Q Was there any evidence of any gas in the Yates or Seven Rivers on the No. 11 well north of it that was drilled?

A We did not do any drill stem testing on this well.

Q Now about the No. 6 well in the NW/4 of the NW/4 of Section 3, was there any gas tested?

A Mr. Nutter, I cannot testify as to the exact drill stem test, as to which ones were actually tested. They were not tested after the pipe was set. I would have to observe my records to determine what drill stem tests were run. To my knowledge, there were no drill stem tests run on the W/2, and I cannot do so because they are in Roswell.

Q At this time you are not sure whether any drill stem tests were made which may have encountered gas in the Yates or Seven Rivers anywhere in the western half of Section 3?

A No, sir, if that information is required, I can wire it back to the Commission. I do not know whether any of the wells tested in the Shell J. A. Foster lease lying immediately north of

the Reed A-3 lease were tested or not. The J. L. Foster No. 2 Well is a gas well and has the entire 160 acres of that lease attributed to gas production for that well. I do not have any idea whether they have tested up there or not, either.

MR. NUTTER: Any further questions of Mr. Queen?

MR. UTZ: Yes, sir.

MR. NUTTER: Mr. Utz.

EXAMINATION BY MR. UTZ:

Q Are all of the wells in the W/2 of Section 3 oil wells?

A Yes, sir.

Q And are they completed in the Penrose?

A Yes, sir.

Q Are any of them completed in the Queen?

A Are any of them completed in the Queen formation. If I recall the limits of the Eumont pool, this area included the Yates, the Seven Rivers, the Penrose, and one hundred feet of the Queen formation, is that correct, sir?

Q I don't remember how much of the Queen.

A I know the Reed A-13 No. 3 was drilled approximately two hundred feet into the Queen formation.

MR. NUTTER: In the Eumont pool, correct?

A Right.

MR. NUTTER: I believe all of the Queen formation.

A Exhibit No. 3 shows the Reed A-3 No. 13 was drilled

approximately two hundred feet into the Queen formation.

Q (By Mr. Utz) And it is open in the Queen producing oil from the Queen?

A For some reason this exhibit does not show the perforations of the Reed A-13 No. 3, does not show casing set, so I would not purport to testify at this time as to what the actual production section is. It is my understanding, the best that I can recall, the Queen formation in some interval is productive, and as I recall, the western line of wells do not have Queen production, however, I believe some of the wells in the second row, which would be the Nos. 7, 8, and 10 wells have the Queen open, and I believe Exhibit 1 shows a --

Q Which well was that, sir?

A I believe, and I would have to further clarify that, but I believe the Nos. 7, 8, and 10 wells also have the Queen formation open. This is shown on Exhibit 1 as a "Q" in the name after the well, and normally it is Continental's procedure to show the name of the formation. On this same basis, the No. 6 and No. 9 wells would have the Queen formation open, but I believe the No. 13 well would be low enough structurally to produce water.

Q None of these wells are open or have been tested in the Yates and Seven Rivers formation as shown on Exhibit 2?

A The Reed A-3 No. 3 Well is open in the Yates

and Seven Rivers formation as shown on Exhibit 2.

Q I'm speaking of the wells on the W/2 of the section.

A No, sir.

Q Any production that is coming from these wells is oil production, and some of it is from the Queen?

A Yes, sir, but the Yates and Seven Rivers is not open in any of those wells. We gave consideration to dual completing a well in the NW of the NE/4 of Section 3, however, this 40-acre tract, only the interval below 400 feet belongs to Continental, and that well producing from that zone is not available to us for dual completion, which is a south offset to the Shell Foster No. 2 well.

Q Do you have any idea how much gas is being produced in your No. 3?

A No, sir, we contemplated testing this well, and this information can be furnished to this Commission, because we felt they were productive, but in calculating the test for this well, the possiblility of damaging the reservoir by killing the well to get a packer in the hole was great, and we could not justify it from an economical standpoint. This was our first thought to prove the Yates and Seven Rivers productive. We have attempted, and we fully realize that the only reason we are asking for a gas allowable in the W/2 of Section 3 is the possibility of gas production in the Yates and Seven Rivers formation, and we feel like the Sanderson B-9 No. testing gas and the Reed B-22 No. 2

is information that can justify this.

Q Would it be possible to determine how much gas was coming from the Yates and Seven Rivers in the No. 3 well by running a temperature survey?

A I had not considered that. I can see no reason at this time why we would not be willing to do this. I do not believe it could be calculated volumetrically how much was coming from any one zone from the temperature survey; it might be possible to state that there was absolutely no gas coming from it, but I doubt if there would be any volume --

Q You couldn't calculate volume, but there is a possibility you could determine where the gas is coming from through the perforations?

A I'm not well acquainted with the temperature gradient in this area to really have an opinion on that, sir. The volume would have to be of sufficient volume from one of these intervals, of which there are eight, to cause a variation of gradient so it could be read. Each one of these is producing small amounts, thereby a considerable volume could be obtained from the sum of them, thereby it would be hard to prove gas from these intervals.

MR. UTZ: That's all I have.

EXAMINATION BY MR. PAYNE:

Q Mr. Queen, are there any Eumont gas proration units to the west of Section 3?

A No, sir.

Q As you probably know, the Eumont rules provide that the maximum acreage that can be dedicated to a Eumont gas well that is located 660, 660 is 160 acres, which leads you to believe that these wells can efficiently drain 320 acres.

A I don't quite agreed with what you said without benefit of hearing. This is the only --

Q Well, the pool rules provide that the maximum acreage that can be dedicated to 660, 660 well is 160 acres, and admittedly, you could get an exception after hearing. What I am asking you is what evidence you have that these particular wells can efficiently drain 320 acres?

A I believe if you will observe the gas proration units of wells surrounding this particular area, you will find that the location of the producing gas wells has very little to do with the size of the unit. It is our opinion, as is most engineering opinions, that a gas well will migrate in a gas structure to almost any distance. The rate of migration of that gas, whether it is commercial or not is another matter. We have one gas well previously to this time assigned to the 320-acre unit, and there has been no question that it will drain that 320 acres. This well is still a top allowable well, the Reed A-3 No. 3, and this well was located 660 feet from the nearest line and 1980 feet from the nearest other line.

MR. NUTTER: You would concede, Mr. Queen, that the No. 3 well is more centrally located in the existing 320-acre

unit than either of these two wells would be in their proposed units?

A Yes, sir, and you will note the west offset to the No. 2 well has been plugged and abandoned and is no longer available to us for dual completion. The northwest diagonal to the No. 2 well, as I previously testified, is not available to us for a Eumont gas well, and therefore, we must proceed to the eastern edge of the pool, and we have tested the structural position, the fact that the No. 2 well is a flowing well, that is desirable for us to dual complete in the No. 2 well. We do not have much of a choice as to where we could go unless we move entirely into the W/2 by producing the oil wells.

Q Are all of the oil wells on the western half of Section 3 still producing oil?

A Yes, sir.

Q Do you feel, Mr. Queen, what you propose here is dual dedication?

A I was not in New Mexico at the time that the original dual dedication, such as the Shell lease to the north of us was set up, but it is my understanding that the Continental Oil Company was initially against dual dedication; however, I believe I testified to at a hearing approximately four or five months that there were either one hundred or two hundred dual dedications in the Eumont pool at that time. I don't recall. There is a large difference between one hundred and two hundred, but it was a

considerable number. Therefore, our opinion as to dual dedication now, I believe, would have nothing, this request would have nothing to do with out opinion as to whether they should be initially granted.

Q Do you feel that since there are other instances of dual dedication, that you need to dual dedicate in order to protect your correlative rights?

A Yes, sir.

Q Do you feel that your correlative rights can just as adequately be protected if the other instance where dual dedications have been approved were cancelled?

A This is a very difficult question to answer, and a far-reaching question. I cannot see now that it would be equitable to cancel dual dedications because of monies that might have been spent previously to this on this, based on this procedure, by the State, if they would cancel dual dedications. However, my feeling would be as to the principle involved, it would appear that they may be risking individual's money without benefit of that individual having a right to protect himself, if I have stated what I have tried to say.

MR. PAYNE: Thank you.

MR. NUTTER: Any further questions of Mr. Queen? You may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr.

Kellahin?

MR. KELLAHIN: I have nothing further in this case.

MR. NUTTER: Does anyone have anything further in Case 1835?

MR. PAYNE: Yes, sir, Mr. Examiner, we have received a communication from Amerada Corporation which reads as follows: "With reference to Case 1835 set for January 6, 1960, Amerada objects to the formation of the two 320-acre non-standard gas proration units as proposed by Continental. We recommend the completion of a gas well if productivity can be established in the W/2 of Section 3. Wells so located would result in a more uniform drainage pattern." Signed, Amerada Petroleum Corporation, by R. S. Christie.

MR. NUTTER: Anything further in Case 1835? We will take the case under advisement and take case 1836.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexio Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 3rd day of November 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1835, heard by me on 11-6, 1960.

, Examiner
New Mexico Oil Conservation Commission