

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1469

TRANSCRIPT OF HEARING

JUNE 11, 1958

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
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I N D E X

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| Carl F. Lawrence | 4 | 11 |
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BEFORE THE
OIL CONSERVATION COMMISSION
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IN THE MATTER OF:

CASE NO. 1469 Application of Phillips Petroleum Com-
pany for a non-standard gas proration :
unit. Applicant, in the above-styled :
cause, seeks an order establishing a :
320-acre non-standard gas proration :
unit in the Eumont Gas Pool consisting :
of the S/2 of Section 14, Township 19 :
South, Range 36 East, Lea County, New :
Mexico, said unit to be dedicated to :
the applicant's Bern "A" Well No. 1, :
located 660 feet from the South and :
East lines of said Section 14. :

BEFORE:

Daniel S. Nutter, Examiner

T R A N S C R I P T O F P R O C E E D I N G S

MR. NUTTER: The next case will be Case 1469.

MR. PAYNE: Application of Phillips Petroleum Company for
a non-standard gas proration unit.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, Santa Fe,
New Mexico, representing the applicant, Phillips Petroleum Company.
We have two witnesses in this case, Carl F. Lawrence and Harold T.
White.

MR. NUTTER: Mr. Kellahin, will these witnesses testify in
the other case too?

MR. KELLAHIN: Yes, sir, they will. They will testify in

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one -- I believe they will testify in both of the others, yes.

MR. NUTTER: Let the record show that the witnesses are sworn in for Cases Nos. 1469, 1470 and 1471.

(Witnesses sworn)

MR. KELLAHIN: I would like to call as our first witness Mr. Carl Lawrence.

CARL F. LAWRENCE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Carl F. Lawrence.

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

A I am employed by the Phillips Petroleum Company at Midland, Texas as assistant development geologist.

Q Have you previously testified before the Oil Conservation Commission of New Mexico as an expert geologist and had your qualifications accepted by the Commission?

A Yes, sir.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir. Please proceed.

Q (By Mr. Kellahin) Mr. Lawrence, are you familiar with the application in Case 1469?

A Yes.

Q Have you prepared an Exhibit showing the proposed unit and subject well and other information?

A Yes, I have.

Q Referring to Exhibit No. 1, will you state what that shows?

A Exhibit No. 1 is a structure map contoured on top of the Penrose sand. The marker that was used in contouring that map is designated by the Conservation Commission. The Eumont Field in this area produces from the Queen, notably the Penrose section of the Queen formation. This area of the Eumont Field is located approximately eight miles west of Hobbs and subsurface-wise is located in the northwest portion of the central basin platform. Structurally, the proposed area is on the extreme west flange of the high monument anticline, whose axes run essentially north and south. The map also indicates the gas wells now producing from the Eumont Field, and the area we propose to dedicate to our Bern "A" No. 1 is outlined in red.

Q How are the Eumont gas wells shown on the Exhibit?

A The Eumont Gas wells are indicated by a green color around the wells.

Q Now, does the Exhibit also show the gas-oil contact?

A The gas-oil contact is not located on the map. We have arrived at a gas-oil contact of a minus 175, plus or minus 25 feet.

Q Now, have you made a study of the geological positions of these wells in this region?

A Yes, sir, I have. We have made cross-sections. Would you

like to have those as Exhibits?

Q Well, we will come to those in a moment, but could you give us just a brief summary of the geological information of the gross thickness found in this area?

A The Penrose section is approximately 175 feet thick; the average gross pay section is approximately 170 feet; the average net pay section is from 30 to 35 feet; the average porosity in the Penrose section is 10.5 percent; the permeability in the Penrose will average from 2.2 to .1 millidarcys. The dip in this area of the Eumont Pool will range from 350 to 400 feet per mile, dipping to the west.

Q Now, have you made a study of the well completion datum in this area?

A Yes, sir, I have.

Q Referring to what has been marked as Exhibit No. 2, would you state what that is designed to show?

A This Exhibit shows the information from which we arrived at our gas-oil contact of minus 175, plus or minus 25 feet. It depicts the completion datums of the wells in the general vicinity of our Bern "A" lease.

Q Now, does that also verify your gas-oil contact?

A Yes, it does.

Q Does that indicate that the acreage you propose to dedicate to this well is productive of gas?

A Yes, sir, it does, definitely. I think it establishes that

at least 240 acres are productive of gas.

Q Now, have you made a cross-section study of the area involved?

A Yes, sir, I have.

Q Is that cross-section indicated on either Exhibit No. 1 or No. 2, Mr. Lawrence?

A No, sir, it is not. The cross-section will be indicated on the cross-section itself.

Q Now, referring to Exhibit No. 3, will you state what that Exhibit shows?

A Exhibit No. 3. Exhibit No. 3 is an east-west cross-section extending from the Amerada Petroleum Corporation State "Wm D" Well No. 1 in Section 15, extending east through the Phillips Bern "A" No. 6, the Phillips Bern "A" No. 3, the Phillips Bern "A" No. 1 to the Skelly ~~Monstate~~ No. 4 located in Section 14, Township 13 South, Range 36 East. This cross-section shows the completion interval on the various wells. It shows the potentials and also the completion dates; it shows the dip of the Penrose and the Yates in various intermediate formations across that area, and shows that the formations are continuous.

Q Now, in connection with the completion dates, what is the completion date on the Bern "A" Well No. 1?

A The Bern "A" No. 1 Well was drilled to a total depth of 37 -- total depth of 4,000 and completed 6/12/53.

Q That was prior to the adoption of the proration and spacing

orders affecting the gas pool involved here, is that correct?

A Yes, sir.

Q The well location is 660 feet from the South and East lines of Section 14, is that correct?

A Yes, sir.

Q And is presently completed in the Eumont Gas Pool?

A Yes, sir.

Q Now, in connection with your cross-section, Mr. Lawrence, is, in the Bern "A" 3 Well, is the gas section opened to the well bore?

A No, sir. We attempted to stay in ~~the~~ base of the Penrose in order to get a low GOR well in that particular well. However, at present, the GOR has increased, and the well was drilled to a total depth of 4,070 and completed 10/9/55 with an initial GOR of 560. The latter part of '57 the GOR had increased to 1245.

Q Have any tests been made in the major portion of the Eumont Gas Pool as defined by the Commission?

A You mean drill stem tests?

Q Yes, sir.

A No, sir. There have been cores in our one particular well which we had trouble. We cored, but the cores were not of any value because we have to core with crude oil. There had been some cores to the north of the Penrose, some two or three miles to the north.

Q Now, have you any information from recent tests showing

that the gas-oil ratios are increasing? I think you mentioned two instances already?

A Yes, sir. They are also increasing in our Bern "A" No. 2 Well located 1985 feet from the South line, 2064 feet from the West line. This well was drilled to a total depth of 4,060, completed in 9/15/55 with an initial GOR of 549. That GOR was taken April of 1958. It had increased to 1386.

Q Does that support a conclusion that the acreage proposed to be dedicated to the subject well is or may be presumed to be productive of gas in the Eumont?

A Yes, sir, I believe it does.

Q Now, in connection with your Exhibit No. 2, as I recall, your testimony, was to the effect that definitely at least a hundred and forty acres is definitely productive of gas from the Eumont?

A That is correct.

Q Do you have any comments as to the remaining eighty acres proposed to be included?

A It is possibly productive although we have no production data in the area to indicate that it is or is not productive of gas. There is a good possibility that it is productive of gas.

Q Now, will the dedication of 320 acres to the Bern "A" No. 1 Well for gas production from the Eumont cause, in your opinion, any appreciable economic loss in the ultimate recovery of oil from this reservoir?

A No, sir I don't believe it will.

Q Could you state the factors upon which you base that conclusion?

A Well, the productivity of the wells, as they now stand, the productivity is low in the -- I do not believe that they will be affected by the increase of gas that would be produced from our Bern "A" No. 1 Well. The majority of the wells are completed in the base of the Penrose immediately overlying the Grayburg, and the gas section, of course, is still behind the pipe.

Q Mr. Lawrence, were Exhibits 1, 2 and 3 prepared by you or under your direction and your supervision, then?

A Exhibit No. 1 was prepared by me; the other Exhibits were prepared under my supervision.

MR. KELLAHIN: At this time we would like to offer Exhibits Nos. 1, 2 and 3, and request permission to withdraw Exhibit No. 3 for the purposes of reproducing it and filing it immediately within the next few days.

MR. NUTTER: Without objection, Phillips' Exhibits 1 through 3 will be introduced in evidence with the understanding that No. 3 will be submitted within a short period of time after being reproduced.

Q (By Mr. Nutter) Will there be any material change made in the Exhibit?

A No, sir, there will be no change made in the Exhibit.

Q (By Mr. Kellahin) Do you have anything else to add, Mr. Lawrence?

A No, sir.

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

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Lawrence, have you indicated the gas-oil contact on that cross-section?

A It is not shown on here. However, we can show it, if the gas-oil contact would be a minus 175, plus or minus 25 feet, which would be approximately right there.

MR. KELLAHIN: That is referring to the Bern --

A Bern "A" No. 3.

Q (By Mr. Nutter) Would you label that gas-oil contact on that Exhibit, please?

A (Witness complies)

Q Mr. Lawrence, which well was it that you were giving the initial GOR as 560 and then it increased to 1245?

A Actually, there are three wells on the Bern "A" lease that have rapidly increased on GOR's. I will list those ones again, if you like. The Bern "A" No. 2, completed 9/15/55, initial GOR of 549. In April of 1958, the GOR had increased to 1386. The Bern "A" No. 3 Well, completed 10/9/55, had initial GOR of 560. The latter part of 1957 it had increased to 1245. The Bern "A" No. 4 Well was completed 10/17/55 with an initial GOR of 1696. In April of 1958 the GOR had increased to 1893.

Q To 1393?

A 1893. Initial was 1696.

Q That well is located higher structurally than the No. 2 or

3 Well, either one, is it not?

A That's correct.

Q Is that the reason it had a higher GOR on initial completion?

A I think so.

Q How about the Yates formation in this area, Mr. Lawrence, is it productive?

A We don't have any ~~drill stem~~ test in this immediate vicinity to verify that. However, several of our wells and several of the offsetting Gulf Wells were drilled with air, and in drilling through the Yates formation, as in drilling through the Queen formation above the Penrose, we did find increases in gas returns, we had occasional blowouts in the Yates and also in the upper Queen, but no drill stem tests were taken.

Q So far as actual production is concerned, the Queen formation or possibly the Penrose member of the Queen is the only productive formation of the Yates?

A No. We believe that the Queen will produce as the Yates. However, we did not have any completion information or drill stem test. We believe that from porosity indications that we have on the logs, as well as what we know of the general area, we believe that they will produce.

Q In the event that the entire 320 acres here is not productive of gas, do you think that 320 acres should be assigned to this well?

A As the Commission defines the Eumont Field, I do believe that the Yates will produce gas, and I do believe that the Queen

will produce gas over two hundred -- well, let's say over 240 acres and that there is a good possibility that it will produce over the other remaining 80 acres. However, we do not have any production information to substantiate that.

Q The gas-oil contacts as you have depicted it as being 175, -- a minus 175, pardon me, would come down approximately in the middle of the proposed 320-acre unit, would it not?

A On the Penrose, yes, sir. Now, remember, of course, that's plus or minus 25 feet. That's about as close as we can come to it.

Q That would give us an estimated gas-oil contact from minus 150 to minus 200, then?

A That is correct.

MR. NUTTER: Are there any further questions of Mr. Lawrence?

MR. KELLAHIN: Mr. Lawrence, you said, in your opinion, the upper zones there would be productive. Would be productive of what?

A Gas.

QUESTIONS BY MR. NUTTER:

Q Mr. Lawrence, do you have any idea what unit is assigned to the Gulf Lea State Well No. 1 directly north of your Bern No. 1 Well?

A At present, it is not contained in the proration schedule. That well does have the entire section of the Penrose opened. The upper part is probably in the gas, the lower portion of the Penrose probably in the oil. My understanding is that for a period of three

or four months it may be a gas well and then switch to an oil well, and they dropped it from the schedule, and after a period of shut-in time it would be again a gas well. It is not listed on the schedule as yet.

Q How about the Gulf "H" No. 1 Well south of Phillips Bern No. 1?

A That's the Gulf No. 1 Well "H", I believe, and it has, I believe, a proration unit assigned of two hundred and -- I believe it's 200 acres, yes, sir.

Q That would be the 160-acres comprising the northeast quarter of that section and also the 40 acres being the northwest of the southeast?

A That's correct.

MR. NUTTER: Any further questions of Mr. Lawrence? If not, he may be excused.

(Witness excused)

MR. KELLAHIN: Mr. White, please.

H. T. WHITE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A H. T. White.

Q And by whom are you employed and in what position?

A Phillips Petroleum Company as gas supply and demand engineer.

Q And is that in Bartlesville --

A That's in Bartlesville, Oklahoma.

Q Have you previously testified before this Commission as an expert engineer and had your qualifications accepted by the Commission as an engineer?

A Yes, sir.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: They are acceptable.

Q (By Mr. Kellahin) Mr. White, are you familiar with the application in Case 1469?

A Yes, sir.

Q If this application is not approved, will, in your opinion, this lease suffer drainage?

A It will.

Q And on what do you base that?

A On the fact that it is within the productive limit of the field as defined by the Commission, and the fact that there is gas outside of the present 160 acres that we have assigned to the well.

Q Now, in your opinion, would the dedication of 320 acres to the Bern "A" No.1 Well have any affect upon the total gas production from the Eumont Gas Pool?

A No, sir, it would not.

Q And on what do you base that conclusion?

A The fact that the total gas from the field is based upon the pipeline demand and upon the size of each individual tract.

Q Now, would, in your opinion, the production of a 320-acre allowable from this well reduce its reservoir energy available for the production of oil in the pool?

A No, sir, I don't believe it would.

Q And, again, on what do you base that conclusion?

A Because the total gas from the field is dependent, not upon the size of the individual tract, but upon the total demand of the pipeline companies.

Q And the gas is being produced anyway?

A The gas is being produced anyway.

Q Now, in your opinion, is approval of the application in the interest of conservation and prevention of waste and the protection of correlative rights?

A Yes, I think it is in the interest of protection of correlative rights and prevention of waste.

Q Would Phillips be unable to produce its fair share of the gas underlying its land and use its fair share of the reservoir energy available in the event this application is denied?

A No, they would not.

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

MR. NUTTER: Anyone have any questions of Mr. White? If not, he may be excused.

(Witness excused)

MR. KELLAHIN: That's all we have, Mr. Nutter.

MR. NUTTER: Does anyone else have anything further to offer in Case 1469? If not, we will take up Case 1470.

C E R T I F I C A T E

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 Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript by me and/or under my personal supervision, 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 14th day of July, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
 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. 1469
 heard by me on 6-11, 1958.

Samuel M. [Signature], Examiner
 New Mexico Oil Conservation Commission

MAIN OFFICE OCC

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