

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Case No. 1629

TRANSCRIPT OF HEARING

APRIL 8, 1959

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE NEW MEXICO
Phone CHapel 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Case 1629 Application of Humble Oil & Refining Company 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 SE/4 of Section 18 and the NE/4 of Section 19, Township 22 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to applicant's State "M" Well No. 1 located 1980 feet from the South and East lines of said Section 18.

Room 109
Santa Fe, New Mexico
April 8, 1959

BEFORE:

E. J. Fischer, Examiner.

TRANSCRIPT OF HEARING

MR. FISCHER: We will take up next Case 1629.

MR. PAYNE: Case 1629, "Application of Humble Oil and Refining Company for non-standard gas proration unit."

(Witness sworn in.)

MR. FISCHER: Any other appearances to be made in this case?

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox, Santa Fe, New Mexico, representing Amerada Petroleum Corporation. We will not have a witness.

MR. FISCHER: Please proceed.

MR. BRATTON: Howard Bratton, Hervey, Dow and Hinkle

Roswell, New Mexico appearing on the behalf of the applicant, Humble Oil Refining Company.

SAM F. HARRILL

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name, by whom you are employed and where, Mr. Harrill?

A My name is Sam F. Harrill, employed by Humble Oil and Refining Company as a petroleum engineer at Hobbs, New Mexico.

Q Have you previously testified before this Commission?

A I have not.

Q Will you state briefly your educational and professional background?

A I graduated from the Oklahoma State University in 1949 with a B. S. degree in Mechanical Engineering. Since that time, I have been employed by the Humble Oil and Refining Company; for the last nine years, I have been in the petroleum engineering section of the production department.

Q How long have you been in the Hobbs office?

A Approximately four years.

Q Are you familiar with the Eumont Gas Pool?

A I am.

Q With the acreage under consideration in Case No. 1629?

A Yes.

Q And with the application which was filed?

A Yes, sir.

MR. BRATTON: Are his qualifications acceptable?

MR. FISCHER: They are, you may proceed.

(Thereupon the document was marked as Humble's Exhibit No. 1 for identification.)

Q (By Mr. Bratton) Referring to Humble's Exhibit No. 1, Mr. Harrill, will you explain what that is and what it shows?

A Exhibit No. 1 is a plat showing the Eumont gas unit offsetting the proposed units that Humble wants to dedicate to their state "M" Well No. 1.

Q The acreage you outlined in red is the acreage proposed to be dedicated to the Humble No. 1?

A That is correct.

Q And that acreage is the southeast quarter of section 18 and the northeast quarter of section 19, Township 22S, Range 37 East?

A Correct.

Q The Humble No. 1 is producing from the Eumont gas pool?

A That is correct.

Q And are all of the wells that are shown on this plat

producing from the Eumont gas pool?

A That is correct.

Q The other wells in the area which are not shown on the plat are producing from other pools?

A Correct.

Q It is not shown on this plat, but does Humble own the lease on the west half of the west half of Section 17?

A Yes.

Q At the present, what acreage is dedicated to the Humble No. 1 Well?

A The southeast quarter of Section 18.

Q So the application is to dedicate in addition the northeast quarter of Section 19?

A That is correct.

(Thereupon the document was marked as Humble's Exhibit No. 2 for identification.)

Q (By Mr. Bratton) Referring to Humble's Exhibit No. 2, will you explain what that is and what it shows, Mr. Harrill?

A Exhibit No. 2 is a cross section to the area showing in particular Wells No. M1 and M4 showing their relative structural position.

Q Does the legend down at the bottom show all of the wells on which the cross section is based and their relative location?

A Yes.

Q Starting with the Gulf's Christmas "C" 5 well on the left side of the exhibit, will you explain to the Commission what the log shows as to each well?

A The dots in the outline are the dots indicating the perforated interval in the wells. The Gulf's Christmas "C" 5 that is referred to on this cross section is completed in the upper zone; the Amerada State PD "A" 1 is also completed in that zone; Humble's State M 1 is completed in that zone and in addition a lower zone; Humble's State M 4 is an open hole completion and it indicates where the casing is set. It is producing singly from the lower zone. Then there is the Continental Elliott B20 Well No. 1 which is producing throughout the entire interval.

Q This exhibit is based off what kind of logs?

A Radioactivity logs.

Q And what does it show with reference to the structure of the M 1 well with relation to the M 4 and Continental B 20?

A It shows that the M 1 is located ~~structurally~~ higher than either the M 4 or the B20 No. 1.

Q From that, would you conclude that the M 1 well is ~~structurally~~ higher than the northeast quarter of Section 19?

A Yes.

Q Has the northeast quarter of Section 19 been classified as productive of gas from the Eumont Pool?

A Yes, it was previously dedicated to the State M Well No. 4.

Q And what is the productivity of the Continental B 20 Well?

A The latest open flow potential available on the well was taken July of 1958 and it indicated an open flow potential of 3900 MCF's per day.

Q Which would substantiate the conclusion that the northeast quarter of Section 19 is productive of gas from the Eumont Gas Pool?

A Yes.

Q Is that well located between the B 20, the M1, or is the northeast quarter of Section 19 located between those three wells, B 20, M4 and M 1?

A Right.

Q Referring to the Humble M 1 Well, would you state to the Commission when that well was completed in the Eumont as a Eumont gas well?

A Our M 1 well was recompleted from the Arrowhead on out to the Eumont Gas Pool in August of 1956.

Q In what zone?

A In the lower interval which is perforated from 3530 to 3550.

Q And when was it completed in the upper zone?

A In May of 1957. It was worked over again and the upper zone was perforated.

Q What was the performance of that well prior to the completion of the upper zone and after the completion of the upper zone?

A I don't have tests exactly before and after, but the initial open flow potential was 3200 MCF per day and after the well was worked over, of course, it had declined considerably. We don't have an open flow potential, but we have had a wellhead deliverability test indicating it was capable of flowing 3875 MCF per day at a hundred pounds of pressure.

Q What is your conclusion as to the source of the gas in the M 1 Well, from which zone are you obtaining a substantial portion of your gas?

A From the upper zone.

Q And the M 4 is not completed in the upper zone?

A No sir, it is not.

Q What is the condition of that well, what is the productivity of that well at this time?

A The latest deliverability test indicates a deliverability of 642 MCF per day at a hundred pounds pressure.

Q Why, in your opinion, should this 320 acres be dedicated to the M 1, Mr. Harrill?

A Our No. 4 was not capable of producing the allowable

for the entire north half of Section 19. That is singly why we are transferring the 160 acres in the northeast quarter to Well No. 1. We feel that the M 1 can produce the allowable and could effectively drain the acreage because it is located structurally higher and has an interval that is not open in the M 4.

Q In other words, due to the structural location of the M 1 and the fact that it is completed in the upper and lower zone, you think it is better capable of draining the acreage?

A That's right.

Q In your opinion, will the granting of this application prevent waste and protect correlative rights?

A Yes.

Q Did you prepare Exhibits No. 1 and 2, Mr. Harrill?

A Yes, I did.

MR. BRATTON: I would like to offer Exhibits No. 1 and 2 in evidence.

MR. FISCHER: Without objection, they will be accepted.

MR. BRATTON: I have no further questions of the witness.

MR. FISCHER: Are there any questions of the witness?

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Harrill, do you have any other wells in the north-

east quarter of Section 19, what wells are in that quarter?

A We have no other Eumont well, we have some Arrowhead Wells, but off hand I can not tell you which ones they are.

Q Do you have a well No. 6 located in that quarter section?

A I do not know in what quarter section it might be.

Q Is it your testimony then that there is no well producing oil from the Eumont in that quarter section?

A Yes.

Q There is none?

A None.

Q Now, you state that the upper zone is not open in well No. 4, is that correct?

A That's correct.

Q Only that lower zone is shown on your Exhibit No. 2?

A Correct.

Q Do you have any tests on your upper zone?

A In the No. 4?

Q Yes, sir.

A No, sir.

Q Has any effort been made to complete the upper zone in that well?

A No, sir, none at all.

Q In so far as the location of the well is concerned,

that well would be better situated to drain the northeast quarter of Section 19 than would the Humble M 1, would it not?

A I wouldn't say it would be better situated, it might be equally as well situated.

Q This area is located at the extremity, practically, of the Eumont Pool, is it not?

A Yes.

Q Are you familiar with any oil rim around the pool?

A Yes, I am.

Q Has that been encountered in this area?

A Yes, sir.

Q In the event there were high withdrawals of gas from the No. 1 well, would that create any danger of migration up structure on the part of the oil?

A No more than the gas production from the other Eumont gas wells in the area.

Q It would be an additional production, though, would it not?

A Not necessarily, we could work over our well No. 4 and obtain that production, but we feel at this time, anyway, that it would be an unnecessary expense.

Q That would be closer to the oil rim, would it not?

A No. 4?

Q Yes, sir.

A Yes.

Q Now, at the present time that entire north half is dedicated to the No. 4 well, is it not?

A No, we have that acreage cancelled and only the northwest quarter is dedicated to the No. 4 well.

Q Your northeast quarter is undedicated?

A Undedicated.

Q Your well location on your number 1 is three hundred and thirty feet out of the corner?

A Yes.

Q Are you familiar with Amerada's PA No. 1?

A I am.

Q That would be 330 feet out of the corner, would it not?

A Yes sir, it would.

Q So that you've got 660 feet in the two wells?

A That is correct.

Q And the Amerada is producing only from the upper zone?

A That is right.

Q And it is your testimony that the majority of the gas could be produced from the M 1?

A Before we go any further, I would like to make a correction. Where we have got 330, we should have been talking about 660. That would be 1320 feet apart.

Q 1320?

MR. FISCHER: 660?

A 660 feet from the unit line.

MR. FISCHER: On both wells?

A On both wells.

Q (By Mr. Kellahin) Are you familiar with the provisions of Order R-520?

A I am.

Q This well does not comply with the well location for a 320 acre unit, does it?

A No sir, and in our application we are asking for an unorthodox well location.

Q Have you had any tests in the northeast quarter of Section 19, indicating gas, that it is gas productive?

A We have not, to my knowledge.

Q Are the royalty interests in the northeast quarter of Section 19 and the southeast quarter of Section 18 common?

A They are.

Q And the overriding royalties?

A They are.

MR. KELLAHIN: That's all the questions I have.
Thank you, sir.

MR. FISCHER: Any other questions of Mr. Harrill?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Harrill, you mentioned the gas well potentials on these three wells, the State M 1, the State M 4, and the Continental B 20 and you didn't mention any liquid production, are any of these wells producing liquids?

A The M 1 does not, has never produced any liquid, the M 4 has produced liquid but currently is not producing any liquid, and the Continental B 20 Well No. 1 does produce liquid.

Q What was the nature of the liquid production on the M 4 when it was producing?

A Oil.

Q It was oil?

A Yes.

Q How about the Continental-Elliott B 20-1?

A Well, they reported oil production. Are you referring to whether or not they may produce water?

Q No sir, I meant oil or liquid hydrocarbons rather than water.

A Well, it's oil. I would say--I mean it is reported as fluid production from the Eumont.

Q Is it in any substantial quantity?

A Yes sir, according to the New Mexico Engineering Report in 1958, the well produced three thousand and six barrels of oil.

Q Almost ten barrels a day through the year?

A Yes, sir.

Q And what is the gas-oil contact in this area, approximately, as far as sub sea datum is concerned?

A I do not know.

MR. NUTTER: I believe that's all, thank you.

CROSS EXAMINATION

BY MR. FISCHER:

Q Mr. Harrill, do you have any idea how much it might cost or have you made estimates of how much the cost may be to go into your M 4 and perforate a similar section in the upper Eumont that is shown projected from your M 1 to this M 4 and open that zone up?

A It would be very close to \$10,000.

Q Could you give us the ownership of the south 320 acres of Section 19, 22, 37, please?

A The State of New Mexico, it is all part of our State M lease.

Q And Humble has that lease?

A That is right.

Q You said that the State M has never produced Eumont's liquid?

A No sir, we have produced Eumont liquid or have produced fluids from our State M 4, which is a Eumont gas well.

MR. FISCHER: That's all. Any other questions of Mr. Harrill?

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Harrill, are there any Eumont Wells south of the Continental-Elliott B 20?

A Yes, there are.

Q In Section 20, or 19?

A We have a well in Section 20.

Q Where is it located?

A It would be 1980 feet from the--approximately 1980 feet from the west and south line of Section 20.

Q All right, sir. Do you know the order number that granted you that non-standard unit of 160 acres in the Humble No. 1? I presume it was an administrative approval?

A Yes, sir. It was. I'll find it for you.

MR. BRATTON: I think it's in the application there.

A Administrative Order No. ST-314.

MR. PAYNE: Thank you.

A On September 10, 1956.

MR. PAYNE: That's all.

MR. FISCHER: Are there any other questions of Mr. Harrill?

The witness may be excused.

MR. BRATTON: One more question.

REDIRECT EXAMINATION

BY MR. BRATTON:

Q Mr. Harrill, in your opinion, would the recompletion of the M 4 well at this time in the upper zone serve any purpose toward preventing waste or protecting correlative rights which would not be served by the granting of this order?

A No sir, it would not.

MR. BRATTON: I think that's all.

MR. FISCHER: One other question, Mr. Harrill.

Do you know the present situation of the Humble M No. 1 and M No. 4 as to either over production of Eumont or under production of Eumont?

A Yes sir, as of the 1st of the year, our M 1 was approximately 16,000 overproduced, our M 4 was approximately 29,000 under produced.

MR. FISCHER: Thank you. The witness may be excused.

(Witness excused.)

MR. FISCHER: Any other statements to be made in this case?

MR. KELLAHIN: Yes sir.

MR. FISCHER: Mr. Kellahin?

MR. KELLAHIN: Amerada Petroleum Corporation, as the owner of the lease immediately off setting the proposed wells

which the proposed unit is to be dedicated, is in opposition to the application of Humble for the reason that obviously, from the well location, it would not effectively drain the entire unit as proposed here but rather would drain the acreage surrounding the well, which drainage would not be compensated by offset drainage. The situation further raises the possibility, and we consider it a very distinct possibility, that increased production from the Humble No. 1 would reduce pressures to the extent that it would cause migration of oil from the oil rim ~~up~~structure with a result of loss in the oil in the reservoir. We don't feel that this application does protect correlative rights for the reason that the drainage area should certainly effect Amerada's wells and there is no opportunity for offset drainage because of the lack of availability of acreage to dedicate to the well on the basis of which production could be equalized.

MR. FISCHER: Any other statements to be made?

MR. BRATTON: On behalf of Humble, we would like to call the Commission's attention to --speaking of drainage and counter drainage--to the situation with regard to the upper and lower zone, and I believe it is obvious that the Amerada No. 1 Well, which is open in the upper zone would receive counter drainage from the south, from the area in the northwest quarter of Section 19. Further, we believe as to the question of increased production, it is simply a matter that the same increased pro-

duction could result from the work over of the Humble's No. 4 Well by recompleting it in the upper zone and we believe that it is an entirely unnecessary expenditure and that in so far as drainage is concerned, the result would be the same or would be worse as far as Amerada is concerned if that course were followed. Therefore, we believe that this application will not damage Amerada's correlative right and that there will not be waste caused by any increased production from the Humble No. 1.

MR. FISCHER: If there are no other statements, the case will be taken under advisement.

The hearing is adjourned.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, JERRY MARTINEZ, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing were reported by me in Stenotype, and that the same was reduced to typewritten transcript by me and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

DATED this 16th day of April, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

My Commission Expires:
January 24, 1962


Notary Public