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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

January 8, 1969

EXAMINER HEARING

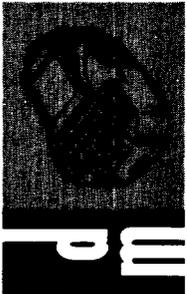
IN THE MATTER OF:)

Case No. 3709 being)
reopened pursuant to the)
provisions of Order No.)
R-3366, which order)
established 80-acre spacing))
units for the Akah Nez-)
Devonian Oil Pool, San Juan))
County, New Mexico.)

Case No. 3709

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING



MR. HATCH: Case 3709, reopened, in the matter of Case No. 3709 being reopened pursuant to the provisions of Order No. R-3366, which order established 80-acre spacing units for the Akah Nez-Devonian Oil Pool, San Juan County, New Mexico.

MR. MORRIS: Mr. Examiner, I am Richard Morris of Montgomery, Federici, Andrews, Hannahs & Morris, Santa Fe, appearing on behalf of Kerr-McGee Corporation. We will have one witness in this case, Mr. Geddie, and I ask that he be sworn, please.

(Witness sworn.)

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

IVAN D. GEDDIE

called as a witness on behalf of the Applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Geddie, please state your name and where you reside?

A My name is Ivan D. Geddie, and I reside in Oklahoma City.

Q By whom are you employed and in what capacity?

A I am employed by the Kerr-McGee Corporation as a Conservation and Unitization Engineer.

Q Have you previously qualified before the Commission or one of its examiners, and have your qualifications as an engineer been established and accepted as a matter of record?

A Yes, I testified in this same hearing 3709 last year, when it was initially heard.

Q Was Kerr-McGee the applicant for the original pool rules in the Akah Nez-Devonian Oil Pools at that time?

A Yes, they were.

Q Please refer to the package of exhibits marked as Exhibit Number 1 in this case, and first please refer to the plat that is shown in that package of exhibits. Does this show the location and designation of the discovery well for this pool?

A Yes, it does. The discovery well for the Akah Nez-Devonian Pool is the Navajo J No. 1. This well is located in the northeast quarter of the northeast quarter of Section 23, 23N, 20W, San Juan County, New Mexico.

Q What is the total depth of that well?

A The well was drilled to a total depth of 4,300 feet.

Q When was that well drilled and completed?

A It was completed on November 15, 1967.

Q What is the producing interval in this well?

A The well was completed in the McCracken sand of Devonian Age.

If you will now turn to the electric log section of the exhibit, which is the next exhibit in the packet, you will see that the well produces through perforations from 3,982 feet to 4,008 feet, and 4,018 feet to 4,028 feet.

The perforated interval was found to be productive of oil. No additional wells have been drilled in this field since the initial discovery well.

Q Has a structure map been prepared on the Devonian Formation in this area?

A Yes, the next exhibit shows the structure on the top of the McCracken sand that was presented at the original field rules hearing. No new information is available, and consequently we have not changed this structure map.

Q Nothing has occurred since the original hearing that would cause you to believe that the structure is any different from what was originally presented at the first hearing?

A That is correct.

Q Do you have an exhibit showing the reservoir data?

A Yes, the next exhibit shows the reservoir data that we have available on the McCracken Sand of Devonian Age, and it was obtained from the J 1 well. I believe this information is self-explanatory, and I won't read it off the exhibit unless the Examiner requests that I do so.

Q Is this information substantially the same as presented to the Commission at the original field rules hearing?

A That is correct.

Q What is the present well location requirements under the temporary field rules, and what is your recommendation concerning the continued spacing of wells in this area?

A Well, the location that was granted at the original field rules hearing allowed, permitted the drilling of a well in any 40-acre quarter section tract, at a point no closer than 330 feet to the quarter quarter section line. At this original hearing, 80-acre spacing units were granted.

Q And your discovery well, the J 1, fitted into this spacing pattern?

A Yes, it did. It complied with that pattern of spacing or drilling.

Q What is your opinion concerning the adequacy of the 80-acre spacing rule?

A In my opinion, the 80-acre spacing rule is applicable to this field and should be continued.

Q Please refer to your next exhibit showing the topography in this area. Does this topography have an effect upon your continued request for flexible well locations in that area?

A Yes, it does. This is a section out of a topographic map, and shows the very rugged topography in the area of the Navajo J No. 1 well. It is necessary that we have considerable tolerance in locating wells in order to be able to make a location in this area.

Q What is the approximate cost of drilling a well in this field to that Devonian Formation?

A The cost is approximately \$150,000 to drill the Navajo J No. 1 well.

Q Does this cost reflect the problems that you have with respect to topography?

A Yes, it does. The roads and location alone cost in excess of \$15,000 on the Navajo J No. 1 well.

Q In your opinion, would it be economically feasible to drill wells on a spacing pattern of less than 80 acres?

A It would not be economically feasible to drill on a pattern of less than 80 acres.

Q Have you prepared an exhibit showing the summary of the production history on the J 1 well since it was completed to the present time?

A Yes, the next exhibit shows the production by months from Navajo J No. 1 well. On the lower part of this exhibit, you will see a history of the tests that were run on the well during

the time that it was producing. You will notice that on November 15th of 1967, which was a complete date, the well was making, tested 160 barrels of oil, and with a GOR of 109 to 1.

On February 21st of 1968, after producing only three months or so, the well tested 123 barrels of oil per day, with a gas-oil ratio of 2,399.

On February 29th, which is only eight days later, the well tested 103 barrels of oil per day, with a gas-oil ratio of 2,872, an increase of approximately 600 cubic feet per barrel since the test eight days earlier.

Shortly after this, the well was shut in to conserve the gas production. I could elaborate on why that well was shut in.

Q If you will, please?

A As I said, the lower part of this exhibit clearly shows the problem. The value of the gas was declining so rapidly that we felt that it would not be prudent economically to continue to produce the oil, and to flare and to vent the gas to the atmosphere, so at this point we did shut the well in after an economic analysis of this. We do plan to produce the well possibly in the future, if we do get a market for the gas. If we are able to arrange for a market of the gas, I would assume we would try to get some relief from this Conservation Commission,

and go ahead and vent the gas, and produce the remaining oil reserves.

Q At the present time, you are exploring a possible market for the gas?

A Yes.

Q Please review the present rules that are in effect on a temporary basis for this field, and state your recommendations to the Examiner with respect to what action the Commission should take with respect to those rules?

A A copy of the rules adopted by the Conservation Commission in Case No. 3709 is attached as an Exhibit. Rule No. 1 makes the rules applicable to all wells completed in the pool or within one mile thereof.

Rule No. 2 establishes 80-acre units.

Rule No. 3 permits the granting of an exception without hearing for unorthodox size or shape units.

Rule No. 4 requires that no well be drilled closer than 330 feet to a quarter quarter section line.

Rule 5 permits the granting of a location exception for topographical reasons.

Rule 6 establishes a proration factor of 2.00 for a standard size unit.

In my opinion, these rules are proper for the

Akah Nez Field, and should be made permanent. However, there may be some additional drilling that will yield more information on the field, and we certainly have no objection to the Conservation Commission continuing the temporary rules for another year or two, until development is completed, if they desire to do so.

Q In your opinion, Mr. Geddie, will these rules, the continuation of these rules either in permanent or temporary form protect correlative rates and prevent waste of oil and gas in this area?

A Yes.

MR. MORRIS: At this time, Mr. Examiner, we offer into evidence Kerr-McGee Corporation's Exhibit Number 1 in this reopened case.

MR. NUTTER: Kerr-McGee Exhibit Number 1 will be admitted in evidence.

(Whereupon, Applicant's Exhibit Number 1, inclusive, was admitted in evidence.)

MR. MORRIS: That is all I have.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Geddie, in the original hearing of this case, did you offer any estimate of the reserves which were in place in

this reservoir?

A I believe we did on cross examination in that matter. I have looked at the reserves volumetrically again, and I would be willing to give another estimate of the reserves.

Q I just wondered if you had a current estimate of remaining reserves here or of the original reserves?

A Yes, I estimate that the reserves, this is volumetric still, we have been unable to come up with a reserve estimate based upon anything other than the volumetric determination. We estimate that that well on the 40 acres would recover 83,000 barrels of oil, and a well on 80 acres would recover 166,000 barrels of oil.

The economics, as I have them computed here, show that on 40-acre spacing, we would lose \$33,000 by developing on 40; and on 80, we have a profit of only \$84,000, which is still not a significant profit when compared with \$150,000 initial investment.

Q If we look at decline in production which occurred from November to February, in all probability the well won't make these volumetric calculated reserves unless some artificial stimulation was given to production, don't you agree?

A I agree there is a definite possibility. However, if you graph these out, and I have, you will find that there was a

very rapid decline in oil production during the first month, and then it seems that on into January we begin to get a leveling out and a tailing off effect, so we may continue to produce for some period of time at the 100 barrel per rate a day, or something on that order.

Q Your test on February 21st indicated 123 barrels of oil a day, and then eight days later it had fallen to 103 barrels. How much was it making the last day of production?

A The last day of production, well, the last three days it made about 250 barrels, if I remember correctly. It was shut in the middle of the third day, so it is hard to say, but it is something in the order of about 90 barrels per day average during that time.

Q It made 250 in the last two and a half days, in other words?

A Yes.

Q The oil has to be trucked out, I presume.

A Yes, that is correct. We have a trucking charge here of about forty-two cents a barrel.

Q Now, how far away is the nearest market for gas?

A They are marketing the gas over, I believe it is at Shiprock, I believe, is where they are trucking it to.

Q The gas?

A Oh, excuse me. The gas is a helium content gas, and there is no immediate--we need a plant in the area.

Q This is not ordinary gas?

A No, it will not burn, it is not that type of gas, and so the problem here is determining the feasibility of constructing the necessary plant to process this gas.

Q Mr. Geddie, wasn't another well or so drilled in that neighborhood which was classified as a gas well?

A Yes, they were up north of here.

Q Have those wells ever been connected to any market?

A No.

MR. NUTTER: Any further questions of this witness? You may be excused. Do you have anything further, Mr. Morris?

MR. MORRIS: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3709?

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

I, SAMUEL MORTELETTE, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Samuel Mortelette
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Bernalillo hearing of Case No. 3709 heard by me on 1-8, 1969.

Samuel Mortelette, Reporter
New Mexico Oil Conservation Commission