

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 2, 1975

EXAMINER HEARING

IN THE MATTER OF:

Application of Anadarko Production
Company for two waterflood projects
and an administrative procedure,
Eddy County, New Mexico.

CASE NO. 5518

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

Thomas Derryberry, Esq.
Legal Counsel for the
Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant:

W. Thomas Kellahin, Esq.
KELLAHIN & FOX
500 Don Gaspar
Santa Fe, New Mexico

I N D E X

PAGE

DANIEL G. KERNAGHAN

Direct Examination by Mr. Kellahin
Cross Examination by Mr. Stamets

3
9

E X H I B I T S

Applicant's Exhibits Nos. 1 through 6

9

KERNAGHAN-DIRECT

Page 3

MR. STAMETS: Case 5518.

MR. DERRYBERRY: Case 5518. Application of Anadarko Production Company for two waterflood projects and an administrative procedure, Eddy County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox, appearing on behalf of the Applicant. I have one witness to be sworn.

(Witness sworn.)

DANIEL G. KERNAGHAN

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Please state your name, by whom you are employed and in what capacity?

A My name is Dan Kernaghan. I am employed by Anadarko Production Company as Division Evaluation Engineer.

Q Mr. Kernaghan, have you made a study of and are you familiar with the facts surrounding this Application?

A Yes, I am.

Q Have you previously testified before the Commission and had your qualifications accepted and made a matter of record?

A Yes, I have.

MR. KELLAHIN: We tender the witness as an expert.

MR. STAMETS: He is considered qualified.

BY MR. KELLAHIN:

Q Would you please refer to what has been marked as Exhibit No. 1, identify it and state what Anadarko seeks?

A Exhibit No. 1 is an area around our Grier Flood and includes a portion of Township 16 South, 31 East and 16 South, 30 East. It shows the various projects that we now have and the two injection wells that we are requesting that are circled in blue.

Q Please refer to Exhibit 2 and identify it?

A Exhibit No. 2 is also a plat of this area. It just shows a little more detail as to the injection wells in the area. Likewise, our projects here are circled in brown. This was covered by Order R-2977, and the green and pink were covered by Order 3677. The green one is our Square Lake Grier No. 1 Project, and the pink one is our Grier Waterflood Project. The yellow acreage is the acreage covered by the new project that we are requesting here, the extension of those we are requesting.

Q Locate again, would you for me, please, the wells

you intend to convert to water injection?

A The Baxter Federal A No. 1 which is location "O" of Section 20, and Anadarko's Federal A No. 3 which is location "M" of Section 21, both in 16, 31.

Q Please refer to Exhibit No. 3 and identify it?

A Exhibit No. 3 is the schematic diagram of our proposed injection-well completion, the Baxter Federal A No. 1 and our Federal A No. 3.

Q Please refer to Exhibit No. 4 and identify it?

A Exhibit 4 is a copy of the pay section from the available logs on the two injection wells.

Q Now, with reference to this Kennedy Federal No. 1 Well, was that the subject of a previous Order of the Commission authorizing the injection?

A Yes, it was. Commission Order R-2920 back in 1965 authorized the project for Kennedy Oil Company which included this well. They required that this well be converted to injection within 90 days after response was seen. The well was never converted, and about two years ago we purchased it. It was non-producing at the time. We purchased it with the intention of making it an injection well at a later date.

Q That is why it is included as part of the subject

matter of this Application?

A That's right. We couldn't determine if the conditions had been met or not.

Q Please continue and refer to what has been marked as Exhibit No. 5?

A Exhibit No. 5 is a plot of the annual and monthly production from the three wells covering this project. It shows that the wells are very substantially declining in production. In fact, the only one that is now producing is the Baxter A Federal No. 2, which is the well that we will leave as producing.

Q In your opinion, these wells have reached the stripper stage where now is an appropriate time in which to convert them to water injection?

A Yes, they have and it is. This area has been under waterflood for quite some time.

Q Please refer to Exhibit 6 and identify it?

A Exhibit 6 is the tabulated information that is presented graphically in the previous exhibit. It shows the monthly production from these wells back several years back and the annual production before that. The top sheet lists only the Baxter A Federal Lease. All of that production is from the No. 2 Well.

Q What would be the source of your injection water?

A Our injection water is obtained from our Wood. It is fresh water from the Ogallala Formation. We would merely extend the pressure line and use the present plant that we already have in operation.

Q They are supplying you injection water under your existing waterflood project?

A This is correct.

Q And this would be an extension of that contract to provide water for the new areas?

A Yes. As far as I know, it wouldn't even take an extension on the contract.

Q What volumes of pressures do you anticipate for injection?

A We anticipate injecting 150 to 200 barrels a day at a surface pressure of 2600 pounds.

Q What was the pressure?

A 2600 pounds.

Q Are those volumes of pressures consistent with the existing waterflood projects?

A Yes, they are.

Q Why have you sought to combine the three water-flooded areas into one project?

A To leave us with more flexibility in administering and reporting these projects. We don't anticipate much further expansion of them, but in the event we do wish to change things around in the future, we would like this flexibility.

Q It will simplify your operating, reporting and control of the waterflood project?

A Yes.

Q Do you also seek permission within the Order to allow you administrative procedures whereby you may convert other producing or non-producing wells to injection or from injection to production without setting this for hearing?

A Yes, we do.

Q And without requirement that such wells shall have shown a response to water injection?

A Yes, we do.

Q Do you have anything else you would like to add?

A No. I believe that is all.

Q Is there any potential contamination to fresh water in the area, Mr. Kernaghan?

A To my knowledge, there are no fresh-water sands in that area.

Q Were Exhibits 1 through 6 either prepared by you

directly or were they compiled under your direction and supervision?

A Yes, they were.

Q In your opinion, will the granting of this Application be in the best interest of conservation and prevention of waste and the protection of correlative rights?

A Yes, in my opinion, it would be.

MR. KELLAHIN: If the Examiner please, we move the introduction of Exhibits 1 through 6.

MR. STAMETS: These exhibits will be admitted into evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 6 were marked for identification, and were offered and admitted into evidence.)

MR. KELLAHIN: That concludes our examination.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Kernaghan, referring to Exhibit No. 1, you have three isolated areas which you wish to consolidate and administer as single flood, is that correct?

A Yes, that's correct.

Q Do you know of any other case where the Commission has made one flood out of isolated areas?

A I believe Numont's operations are possibly consolidated.

(Whereupon, a discussion was held off the record.)

A In answer to your question, Numont Oil Company, under Order No. R-2664 received administrative procedure to govern their property in this area which are pretty extensive. I don't have them plotted on the map and I can't say whether any of these are non-contiguous or not, but they do cover Sections 28, 29, 32, 33, 34 in this township and range. They are spread out there quite a bit.

Q Are any of the wells inside the project areas, top allowable at the present time?

A No, sir, they are not.

Q Do you anticipate that that No. 2 Well on the Baxter A Lease would become a top-allowable well?

A I don't anticipate it. This is a very very tight Grayburg Formation in this area, San Andres, and these floods have not responded with high peak rates. They have responded slowly over a good many years and fallen off over several years. Our best well is making 39 barrels a day now and I wouldn't anticipate the Baxter A Federal No. 2 would reach anywhere near top-allowable rate.

Q Mr. Kernaghan, are your field people instructed to advise the appropriate Commission District Office of any leakage of water from any injection wells or producing wells or dry holes?

A Yes, they are. We have either a guage or method of determining leakage on all of our injection wells and those are watched regularly.

Q Each of the proposed injection wells would have injection through tubing under packer and the annulus would be loaded and some sort of leak-detection device would be installed?

A Yes. It would be loaded with a corrosion inhibiting fluid.

Q Does this 2600-pound pressure give you any problem with channeling behind the pipe or formation problem?

A To my knowledge, there has been no problem in this area. This is probably the highest pressure that any of our projects operate under, but this has been a fact of life for several years now. To my knowledge, we have had no problem in this area with channeling.

Q Just one more question: What you are asking for is an administrative procedure, just a typical

administrative procedure that appears in many Commission Orders?

A Yes.

MR. STAMETS: If there is nothing further, the witness may be excused.

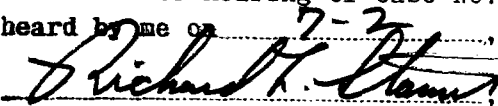
(Witness dismissed.)

MR. STAMETS: Is there anything further in this case? We will take the case under advisement.

STATE OF NEW MEXICO)
) SS.
COUNTY OF SANTA FE)

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


COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5518, heard by me on 7-2, 1975.

Richard H. Blum, Examiner
New Mexico Oil Conservation Commission