

DEARNLEY-MEIER REPORTING SERVICE, Inc.

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 26, 1963

EXAMINER HEARING

IN THE MATTER OF:)

Application of Neil H. Wills for)
certain unorthodox oil well locations,) Case 2847
Eddy County, New Mexico. Applicant,)
in the above-styled cause, seeks ap-)
proval of the non-standard location)
for several oil producing wells in his)
Russell Pool Waterflood Project,)
Russell Pool, Eddy County, New Mexico.)

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 2847.

MR. DURRETT: Application of Neil H. Wills for certain
unorthodox oil well locations, Eddy County, New Mexico.

(Whereupon, Applicant's
Exhibits 1, 2 & 3 were
marked for identifica-
tion.)

MR. TOLES: Mr. Nutter, I am Penrod Toles, an attorney
in private practice in Roswell, New Mexico. I'm representing
Mr. Neil Wills in Case 2847. There is one witness to be sworn.

(Witness sworn.)



ROBERT S. LIGHT

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

DIRECT EXAMINATIONBY MR. TOLES:

Q Will you please state your name and present position for the record?

A My name is Robert S. Light, L-i-g-h-t, I'm an engineer working for Neil H. Wills, Carlsbad, New Mexico.

Q Mr. Light, for the purpose of qualifying you as a witness in this hearing, would you state briefly your educational and professional background as well as your experience?

A My educational background is a Bachelor of Science degree from the University of Kansas in electrical engineering. I was three years with the Geophysical Department of the Continental Oil Company; the past six years I have been employed by Neil H. Wills, Carlsbad, New Mexico, primarily as an engineer in his oil operations, an engineer pertaining to his drilling and exploration operations.

MR. TOLES: Are these qualifications satisfactory?

MR. NUTTER: Yes, they are. Please proceed.

Q Mr. Light, you are familiar with the application here under consideration?



A I am.

Q For purposes of better understanding, would you briefly give us some background on the Russell Pool which is under consideration and the purposes of this application?

A The Russell Pool is essentially a waterflood project at the present time, located in Section 13, Township 20 South, Range 28 East, Eddy County. At the present time there are 32 injection wells and 21 producing wells. The initial flood on a full scale was started in 1953, the Russell sand of the Yates formation is that being flooded **and is found at approximately 850** feet in depth.

Q The purpose of this application is requesting approval for the drilling of 18 unorthodox location wells in the field, is that correct?

A That's correct.

Q I ask you, please, to identify and explain briefly Exhibit No. 1.

A Exhibit No. 1, you'll note that it is also indicated by Exhibit A, is a plat showing producing wells, injection wells, dry holes as per the legend in the left-hand corner, and also an additional 18 proposed locations for producing purposes as indicated by the large open circles.

Q Now, Mr. Light, have the 18 unorthodox well locations



been previously approved by the Commission as injection wells?

A All 18 of these locations have been previously approved on the date of May 31, 1963 by administrative approval under Order WFX-140.

Q Is it your understanding, Mr. Light, that by this administrative order approving these unorthodox well locations for injection purposes that the casing program and the drilling thereof has been approved by the State Engineer?

A That's my assumption. We have, I might add, in addition to this we have drilled two wells under this casing program and both being approved, the first one being approved in its final form which was plugged as a dry hole, that was No. 31, you'll find that in the Northeast Quarter of Section 13, the east-most well as the plugged dry hole, and that casing program is approved by the United States Geological Survey out of Artesia.

Q Now, then, referring to Exhibit marked No. 2, would you please identify this and explain it briefly?

A Exhibit No. 2 is a reservoir performance curve, you'll note it's a logarithmic scale on the vertical scale. The horizontal scale is, of course, by years. There are three curves represented here, one for oil production, one for water production, that is water produced with the oil, and the topmost curve

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is the water injection curve. You'll note that it was started in May or April of 1953.

Q With reference to Exhibit 2, is it true that the principal purpose of these 18 additional wells is to inject more water into this formation toward ultimate recovery of the oil?

A That is correct. In order to obtain the maximum oil out of this small producing field and thereby prevent waste, we feel like that more injection water needs to be put into the sand. You'll note that at the peak we had some 80,000 barrels in any one-month period and we're now down in the neighborhood of below 50,000 barrels. Our purpose, of course, is to inject more water to obtain ultimately more oil.

Q Very briefly, if you will identify and explain Exhibit marked No. 3.

A Exhibit No. 3 is our monthly report, one which we receive monthly from the Engineering Service from Stephens Engineering out of Wichita Falls. They are the engineers on this project and that same party recommended this additional drilling program in order to obtain five-acre spacing in this field. This particular page, page 1, and page 1-a, **represent** water injection by wells on a monthly basis. Page 2 and 2 -- not marked 2, possibly should be, represent the production from the producing wells per month plus the water that comes with the oil.

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Q Now, the purpose of the hearing today under the application in question is to obtain permission to use these 18 unorthodox located wells that will initially or eventually be used for injection purposes as producing wells. Would you please explain the reason for the desirability of this request and this application?

A Well, it was recommended primarily by our engineer, Stephens Engineering, to drill these additional locations and with the idea that if they were productive to put them on production through such time as they dropped to a comparative production of our other production wells, at which time we would shift them over to injection wells and inject water into them and thereby obtaining ultimately more oil.

We are trying to obtain the best possible spacing in the field and if you'll notice on the plat, by drilling these locations we will end up with a five-acre spacing for the entire producing area which we feel has been completely developed.

Q Now, to explain that further, the five-acre spacing would include your producing wells as well as your injection wells?

A That is correct. That would be the total wells drilled, would be on a five-acre spacing.

Q Is it your testimony, Mr. Light, that if the relief



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for in this hearing is granted, that this would do the most possible toward recovering the oil in the pool?

A I believe if we can have a choice of using these wells for injection or producing purposes, that in the over-all pattern we will without doubt prevent waste and ultimately recover the maximum oil that can be produced out of this sand zone.

Q Is there anything else you would like to add at this time?

A I can't think of anything further.

MR. TOLES: That's all I have, except I would like to offer Exhibit 1, 2 and 3.

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

(Whereupon, Applicant's Exhibits 1, 2 & 3 were offered and admitted in evidence.)

MR. NUTTER: Any questions of Mr. Lighth?

MR. DURRETT: Yes, sir, I have a question.

CROSS EXAMINATION

BY MR. DURRETT:

Q Am I correct that you are proposing to operate these 18 wells under the Rule 701 allowable, is that correct?



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A I'm not sure I can answer that for this reason, this was probably the first waterflood project in New Mexico, and I don't think it's governed by allowables.

Q This is capacity-type flood?

A I believe so.

Q Then you would be proposing that these 18 wells be capacity-type wells also?

A We would ask, I'm sure we'd ask that.

MR. DURRETT: Thank you.

BY MR. NUTTER:

Q When we wrote the order that you referred to, being WFX-140, we didn't have the exact location of the wells and they were specified in that order, I think, for the most part being five or ten feet off of the 40-acre lines?

A Right.

Q Is that footage description satisfactory?

A Very satisfactory. We have reviewed these. I am sorry, we didn't do this originally, in the original letter, and we have already started Well 32. We're drilling on it now and it is the one that is located 1980 from the South line and 2630 from the East line of Section 13, 20, 28. They fall exactly, all these locations are exactly the locations we would like to request.



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Q So the locations are satisfactory?

A Very satisfactory.

Q As outlined on WFX-140, is it your request that all 18 be approved as possible producing wells?

A We would like to let our engineer, who we feel we have great confidence in, decide which wells are to be put into production and which temporarily possibly and which ones would go immediately to injection wells. We don't know until after we drill them whether or not they'll flow oil. It's very possible they'll flow not to the surface but by pump we would get considerable oil out of a new well into the sand.

Q So actually what you would request, then, would be the designation of these wells as production or injection wells?

A That is our intent.

Q And possibly the order could set up some kind of administrative procedure for you to notify the Commission as to the conversion from producer to injector when it was deemed advisable?

A That is exactly what we would like.

Q Have you received any estimate from Stephens Engineering as to the amount of increased production that you can expect after this program is completed?

A No, actually we haven't. I think he's hesitant to say it was his recommendation that we're doing this, and he feels



that economically it's sound for Mr. Wills to invest in these additional injection wells.

Q Your current production rate is down to 6,000 barrels per month?

A That is true. The month of April the production was 5,940 barrels of oil, which is Exhibit 3.

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

BY MR. PORTER:

Q Present spacing in that pool is ten acres?

A That is correct, except sometime ago by hearing approval was obtained on drilling unorthodox locations 26 through 31, which 26 through 30 were drilled, 31 was never drilled. In that portion of the field did bring itself up to a five-acre spacing in certain portions. Now, the additional 18 locations will make an overall five-acre spacing.

Q But your primary production was obtained on ten-acre spacing?

A That is correct.

MR. PORTER: Thank you.

MR. NUTTER: Any further questions of the witness? He may be excused.

(Witness excused.)

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NEIL H. WILLS

P. O. BOX 520

CARLSBAD, N. M.

August 23, 1963

Oil Conservation Commission
State of New Mexico
Santa Fe, N. M.

Re: Case #2847
Order #R-2511

Gentlemen:

As requested in the above order, I submit
the following:

Section 13, T. 20 S., R. 28 E., Eddy County

<u>Well</u>	<u>Date</u>	<u>Location</u>
Wills-32	put on production 8-1-63	1980' fr SL, 2030' fr EL
Wills-33	put on production 8-17-63	1330' fr SL, 1980' fr WL

Very truly yours,

Neil H. Wills