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

November 13, 1968

REGULAR HEARING

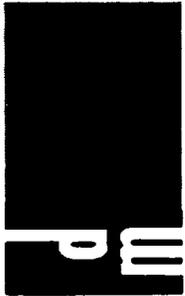
IN THE MATTER OF:)

Application of W. E. Jeffers)
for an exception to Order No. R-3221,)
as amended, Eddy County, New Mexico.)

) Case No. 3925
)

BEFORE: A. L. "Pete" Porter, Examiner

TRANSCRIPT OF HEARING



MR. PORTER: The Hearing will come to order, please. We will take up the next case on the Docket, which is Case 3925.

MR. HATCH: Case 3925. Application of W. E. Jeffers for an exception to Order No. R-3221, as amended, Eddy County, New Mexico.

(Whereupon, Applicant's Exhibits 1 through 6 were marked for identification)

MR. PORTER: Mr. Jeffers, I believe you have indicated that you will represent yourself in this matter?

MR. JEFFERS: Yes, sir.

MR. PORTER: So would you be sworn, please and take your seat at the end of the table and you might start out by giving us your full name and address.

(Whereupon witness was sworn)

W. E. J E F F E R S, the applicant, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. PORTER:

A I am William E. Jeffers of Artesia, New Mexico. I'm an oil operator.

Q I understand you're an independent producer?

A Yes, sir.

Q Now you might proceed from there and tell us what

your situation is; give us the details of your operation and so forth?

A I have this well in question is more or less an isolated well for me. I own the one well there to the south on the 140 as I stated in my letter.

Q You only have the one well?

A Yes, sir.

Q Yes, sir, go ahead.

A It's producing oil with the water and present amount of 16 barrels of oil a day and 50 barrels of water and I just -- I have it -- now have the water going into an open pit and I have no other place to put this water and no other operators around there with disposal wells or with water problems, producing water.

Q No other operators producing water you say?

A No, sir. I offset a waterflood and they are taking care of their own, of course, but no other operators outside the waterflood are having water problems.

Q Is the people operating the flood reinjecting their water --

A Yes, sir.

Q -- their produced water?

A Yes, sir.

Q Yes, sir, go ahead.

A That about describes the set up, I guess. This is evidenced in my map I submitted, as a massive gypsum outcrop on the surface of the ground and below the surface and runs from the place marked on my map to the Pecos River along the highway on the ground and just a solid gypsum outcrop. It isn't porous and no fractures in it. I have had to enlarge my pit. The water makes a lot of oil -- the produced water makes a lot of gypsum. I have had trouble with that and I am treating it and with this mineral water into that pit, in that mineral outcrop I can't see any damage. As I said, besides that, I have no alternative anyway.

Closest produced water is Mr. Evans. I submitted in my letter from him, in my application, and there's never been -- it's in the middle of these old wells, some of them been producing since 1923 and all of them producing little water -- there's never been any damage yet and I'm lower on the surface anyway than he is.

Q Now, you're talking about the owner of a fresh-water well?

A Yes, sir.

Q I see.

A On the quadrangle map I submitted about -- I would say two miles east of me there is a fresh-water well.

MR. PORTER: Mr. Hatch, do we have a copy of Mr. Jeffer's application with which he included the map and the other information to which he has referred?

MR. NUTTER: Yes, sir, I've got the file here.

MR. PORTER: Mr. Nutter, suppose we let the applicant have the map and point out the specific locations of the water wells and so forth.

Mr. Jeffers, I have a question or two I want to ask you.

Q (By Mr. Porter) This producing well of yours, is it located in the old Red Lake Pool?

A Yes, sir.

Q About from what depth is it producing?

A 1700 to 1725.

Q And that is what formation?

A Premier, Section of the Grayburg.

Q It's in the Grayburg?

A Yes, sir.

Q And can you tell us about when this well was drilled?

A 1947.

Q Did you drill it or did someone else?

A I acquired it about three years ago.

Q About three years ago? At that time what was the well

producing?

A About a quarter of a barrel a day.

Q And it had been producing at this low rate, I guess, for many years?

A Yes, sir.

Q When did it start producing more?

A I have it here in my letter of introduction that I'll call Exhibit 1, from January the 1st, 1967 to January 15 -- December 15, 1967, nearly a year, it produced 105 barrels.

Q In that hole you had produced approximately 105 barrels?

A Yes, sir. The oil increase came on December 15, 1967, 60 barrels a day.

Q It got up to 60 barrels per day?

A Yes, sir; in a three-day period.

Q Now, as I understand, it didn't produce water --

A No, sir.

Q -- when you first acquired it?

A That's right, yes, sir.

Q So the oil production and your water production apparently were the result of response from the waterflood which you offset?

A Yes, sir, and it held that 60-barrel rate until

January the 15th, 1968. That's when it started producing water at the rate of 35 barrels of oil and 20 barrels of water per day.

Q So now it's declining --

A Yes, sir.

Q -- in oil production?

A It hit fast and peaked pretty fast and has been declining ever since.

Q Is it declining also in water production?

A Yes, sir.

Q You say it is making about 50 barrels a day at the present time?

A Yes, sir, it is.

Q I see.

A It reached a peak of -- in June the 15th I ran three-day tests about the 15th of each month, of oil and water and it reached a peak on June the 15th of 25 barrels of oil and 90 barrels of water. Both have declined to the present rate of 15 barrels of oil and 50 barrels of water.

Q I see. Now, you made reference there to a producing water well in the area. Would you locate that for us on the map?

A Yes, sir. In my Exhibit 2 which is the USGS 7 and 1/2 minute quadrangle map, Red Lake, New Mexico, in about the south-

west quarter of the northeast quarter of Section 5 of 18, 28, 18 South and 28 East, Mr. Tom Evans has the only fresh-water well in the immediate area and the nearest to my salt water pit.

Q All right. Now, do you know how deep that water well is?

A No, sir, not absolutely I don't. I think I recall the man told me 350 feet. I'm sorry, but I didn't get that detailed information. I know it is 2 or 300 feet deep.

Q You know it's relatively a deep well?

A Yes, sir. It isn't a surface water well at all.

Q Do you know anything about the quality of the water in that well? I believe you said he did use it?

A Yes, sir, it's good ^{soft} salt water, much better than Artesia water.

Q I see.

A And it's been there, say, in these old oil wells there, something I didn't -- I didn't prepare any information on, but I might bring up at this time. Here in about -- oh, in Section 4 of 18 South and 28 East, Walter and Joe Solt, have had a water well in this depression sink hole or Buffalo ~~well~~ ^{wallow}, as it is called, for many years. I don't have any documented evidence, just conversation. Joe Solt, he was raised

there and they have a water well in the middle of this depression, surface depression. On the edge of the surface depression is an oil well that was drilled in 1923, been producing salt water at the rate of 3 or 4 barrels a day since that time and they have been draining into a pit on the edge of this surface depression. Of course, it worked its way down into the surface depression; there's never been any damage to that water well of their own. It's their water well and their oil well. Petrofina Company now owns the water well and it's still producing ^{soft} salt water. The oil well is within a waterflood and it's being disposed of since last year.

Q Now, Mr. Jeffers, I believe your application states that your producing well is northwest of the northeast of Section 36, Township 17 South, Range 27 East.

A Yes, sir, Unit "B".

Q All right. Is your pit located on the same 40 acres?

A Yes, sir, within 100 feet of the well.

Q All right. Now, how far is it from that water well which you referred to, the one of Tom Evans?

A 2 miles -- 2 miles and a quarter to 2 miles and a half.

Q In which direction?

A Mr. Evans' water well is southeast of my salt water

pit.

Q Southeast?

A Yes, sir.

Q Now, you say the water is good in the --

A Yes, sir.

Q -- Evans well and I assume that you don't have an analysis on your produced water?

A No, sir.

Q You just know it's salt water, it's unfit for human consumption or livestock or anything like that?

A It's very salty and has gyp in it. I have had chemical treating problems on the well and I have had stripping job with rods and tubing from crystal forming in my tubing until I instituted a chemical treating program.

Q Yes, sir.

A Mr. Evans' water well is also higher surface elevation than my salt water pit on Exhibit 2.

Q It's a higher surface elevation?

A Yes, sir. I might mention that ground water report of Eddy County shows the sub-surface drainage ground water drainage, to be -- I would like to say first, that I don't have this documented either and that probably, I'm sure means, not as well prepared as I might be, but I'm nearly certain it shows the ground water drainage to be south and southwest.

Q South and southwest?

A Yes, sir, that I recall from studying it.

Q I see. And if this is true, of course, it would be in a direction other than towards this fresh-water well?

A Yes, sir.

Q Is there anything else you would like to tell us about the situation?

A Just to mention the point that as shown on this map there is a surface solid white gypsum, white and red, and logs of my well shows anhydrite and red beds down to 1400 feet and all the sub-surface water in that immediate area is gyp water and salt water and that any disposal method that I know of, as I mentioned in my application, would -- doesn't seem to be economic at the rate of decline this well has been declining, and looks like it possibly will and I don't know anything else to do with it. That's about all.

Q Have you tried to project what the remaining life of your well might be?

A No, sir, just -- I could follow my monthly production figures and make a projection, but it wouldn't have much of a guarantee on it. Obviously, at that rate of decline, it won't -- it probably won't be economic too long. I'm not too familiar with waterflood wells, but in a 12-month period here -- not

quite twelve months yet -- it's shown a pretty bad decline.

Q Now, you've got a shallow pay out there, as I remember, the old Empire Pool, maybe 300 to 400 --

A Yates Seven Rivers, between 400 and 450, I believe.

Q Right. And it doesn't make any water?

A I think some of them make a little water around -- I'm not -- I don't know. The ones closest to me don't.

Q I see.

A It's very fractured lime, and very porous.

Q And the Red Lake wells don't make any appreciable water either?

A No, sir, they didn't.

Q Except those that are in the waterflood?

A Yes, sir, it was a gas solution drive reservoir, and they never, never -- any of them made any appreciable amount of water in this area.

Q Now, is this fresh water well of Mr. Evans the closest --

A Yes, sir.

Q -- fresh-water well to your operation?

A Yes, sir, it is the closest.

Q Anybody else have a question they would like to ask?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Jeffers, you mentioned the ground water report of Eddy County. Now, according to that ground water report, there is a belt extending northward from Lake Avalon ^{out} of the east side of the river northward to the county line, and it's referred to as the Chalk Bluff Formation.

A Yes, sir. You mean the outcrop?

Q Yes, sir.

A Yes, sir.

Q And that is the Chalk Bluff Formation and your 40-acre tract is located in the Chalk Bluff Formation, is that not correct?

A Yes, sir, as shown and marked on this Exhibit 2, which will -- is more of a detailed marking -- mapping of the outcrop shown in general on that plate I have enclosed from the ground water report.

MR. PORTER: Was that the gypsum outcropping that you refer to?

THE WITNESS: Yes, sir, it is called the Chalk Bluff Formation.

Q (By Mr. Nutter) Mr. Jeffers, I hand you Plate No. 4 of the ground ~~and~~ water report for Eddy County, which is report

number three. This is Plate No. 4, and I have indicated here in red the approximate location of your 40-acre tract; that would be the northwest quarter of the northeast quarter of Section 36 of Township 17 South, 27 East.

A Yes, sir, that's right.

Q I have also indicated by a little red x the approximate location of the Evans water well. Now, isn't it true, Mr. Jeffers, that these two locations, the location of your well and the location of the water well are in the area designated as 5A on the plate?

A Yes, sir. Yes, sir.

Q Now, I would ask you to read what it says for the description of water supplies in area 5A. Read it into the record, please.

A As area 5A is indicated on the ground water report 3 of Plate 4, area 5: East of Pecos River; A: Stock and domestic supplies available at depths less than 200 feet in Chalk Bluff Formation, or White Horse Groups locally impotable.

Q So it does say that although the water is locally impotable that stock and domestic water supplies are generally available at less than 200 feet in that area, is that correct?

A Yes, sir. This water well is not in that Chalk Bluff outcrop, incidentally.

Q It is in area 5A, however, isn't it? The Chalk Bluff Formation would be underlain by this. See the Chalk Bluff Formation would dip under this area right here. This is the outcrop right here.

A The fadeaway red line, is this 5A?

Q Yes, sir, the dark line would be the eastern limit of the water supplies in the Chalk Bluff Formation, although on this plate it shows that this would be the Chalk Bluff Formation outcrop. The Chalk Bluff Formation would extend over to the other line, but it would be overlain by this formation here. I can't tell what that is. The Russler Formation is on the top of the ground there.

A Yes, sir. The water well is in the Russler outcrop and my pit is in the Chalk Bluff outcrop.

Q Now, I would also ask you to read what I have underlined in red there, please, Mr. Jeffers.

A Statement from ground water resources of Eddy County, New Mexico. Water of fair ^{quality} quantity is obtained from wells in Chalk Bluff Formation which extends northward from Lake Avalon to and beyond the county line in a belt six to ten miles wide ^{bordering} ~~bordering~~ the Pecos River on the east and also from some wells in the ^{Dockum} ~~Dokum~~ Group near the east boundary of the county.

Q Now, Mr. Jeffers, have you made any efforts to try to

get the people that are operating the waterflood to the south and west of you to take this water and use it for injection?

A Yes, sir.

Q After all, I imagine it's their water to start with.

A Yes, sir. They mentioned that I could bring the water back if I would bring the oil back.

MR. NUTTER: I believe that's all. Thank you.

EXAMINATION

BY MR. PORTER:

Q Mr. Jeffers, do you know of any other fresh-water wells in this area that have been abandoned?

A No, sir.

Q Does your knowledge of this area just date back to the time you acquired the well?

A No, sir, I have lived there and worked on these wells in this area since 1946.

Q I see. Do you perform services for someone other than yourself?

A No, sir.

Q Do you work for somebody else?

A No, sir, I have most of my life worked for someone else in the oil fields, and I recently acquired this well and interested in some more.

Q I see. This other one -- you don't know of any other fresh-water wells that have existed?

A It's my belief that any well that ever did make any water that was fit for livestock or human consumption has never been abandoned. I don't -- I can't document that, either, but water that humans can drink is very scarce out there. These and one other well near the Phillips Gasoline Plant about three or four miles south are the only fresh-water wells in that area, and even very good stock water isn't too plentiful.

Q Now, you testified while ago that your wells actually increased up to 60 barrels of oil per day there at one time?

A Yes, sir.

Q Did you say how much water you will make at that time?

A At that time it would not make any water.

Q When it went up to 60, it was still water-free production?

A Yes, sir.

Q And what is the highest water production you have had per day?

A In June, for a short period, it made 90 barrels of water a day, but not -- as a short period, it has averaged before that and then declined pretty fast back to around 50 to

60 barrels of water per day. At the present time, it's making 50.

MR. PORTER: Does anyone else have a question?

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Jeffers, as I understand this well is an offset to the waterflood unit?

A Yes, sir.

Q Were you offered an opportunity to join that unit?

A It was for sale. I offered to sell, and he and I were so far apart on the price that we couldn't -- I would have sold, but I wanted considerably different price than he offered.

Q But, you were offered to participate in the unit, working interest on it?

A We never did discuss that. All we talked about was selling price.

Q Could you, at this time, join the unit?

A Sir?

Q Could you, at this time, join the unit?

A I don't know.

Q If you were a part of the unit, then, you wouldn't have that disposal problem, would you?

A No, sir, I wouldn't.

MR. UTZ: That's all I have.

MR. PORTER: I don't believe I have any more questions.

Does anyone else have a question of the witness? Is there anything else that you would like to say?

THE WITNESS: I believe not. Thank you.

MR. HATCH: Would you like to introduce those exhibits?

THE WITNESS: Yes, sir.

MR. PORTER: Mr. Jeffers, is it your desire to enter Exhibits 1 through 6 into the record?

THE WITNESS: Yes, sir, it is.

MR. PORTER: If there are no objections, Exhibits 1 through 6 will be admitted. Mr. Jeffers, who operates the waterflood, what company?

THE WITNESS: Archie Speer. A. M. Speer.

MR. PORTER: A. M. Speer, and the waterflood is in his name?

THE WITNESS: Yes, sir.

MR. PORTER: And how far is your well from the waterflood; that is, the limits of the waterflood.

THE WITNESS: It's adjoining 40 acres to his unit line.

MR. PORTER: In other words, what would be 330 or 660

out --

THE WITNESS: This well is on a 10-acre location; it's the southwest 10 acres of the 40 acres.

MR. PORTER: So, you're only 330 feet from the limit of his waterflood?

THE WITNESS: Yes, sir.

MR. PORTER: If you have nothing further to offer, Mr. Jeffers, you may be excused. Does anyone else have anything to offer in the case? We have one other question, I believe, before you're excused. How much lime would you have to lay to get into their injection system in the event that something could be worked out of that?

THE WITNESS: I think about, approximately a quarter of a mile.

MR. PORTER: About a quarter of a mile?

THE WITNESS: Yes, sir.

MR. PORTER: Do you have any other questions, Mr. Utz? You may be excused. If there is nothing further to be offered in the case, we will take it under advisement.

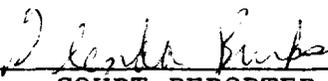
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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, GLENDA BURKS, 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.



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