BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 16, 1968

REGULAR HEARING

IN THE MATTER OF:

Application of Joseph I. O'Neill, Jr., for an exception to Order No. R-3221, as amended, Lea County, New Mexico. Case 3891

BEFORE: A. L. PORTER, JR.
Examiner

TRANSCRIPT OF HEARING

MR. PORTER: Call Case 3891.

MR. HATCH: Case 3891. Application of Joseph I. O'Neill, Jr., for an exception to Order Number R-3221, as amended, Lea County, New Mexico.

MR. KELLAHIN: If the Examiner, please, Jason Kellahin of Kellahin & Fox of Santa Fe, appearing on behalf of the Applicant. We will have one witness and I would like to have him sworn, please.

MR. PORTER: Do we have any other appearances in this case? The witness may stand and be sworn.

(Witness sworn).

(Whereupon, Applicant's Exhibit No. 1 marked for identification.)

MR. KELLAHIN: If the Commission please, the application of J. I. O'Neill in Case Number 3891 is for an exception to the provisions of Commission Order R-3221, as amended, to permit the continuation of the use of surface pits. I feel that the evidence which we will present will likely support a conclusion by this Commission that the continued use of the surface pits involved in this application will damage no fresh water since there is no fresh water in the area involved in this application.

The purpose of Order Number R-3221, as I understand it, is for the protection of fresh water supplies in the State of New Mexico and in a situation where there is no fresh water,

certainly, an exception should be granted and I believe evidence which we will present will support this.

E. T. ANDERSON

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A E. T. Anderson.

Q By whom are you employed and in what position, Mr. Anderson?

A Joseph I. O'Neill, Jr., and I guess I'm Drilling and Production Superintendent.

Q You are associated with Joseph I. O'Neill, Jr.?

A That's correct, yes.

Q Are you a petroleum engineer, Mr. Anderson?

A Yes, sir, I am.

Q Have you testified before the Oil Conservation Commission or one of its Examiners and made your qualifications as a petroleum engineer a matter of record?

A I have, sir.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. PORTER: Yes, sir, they are.

Q Mr. Anderson, did I correctly state the purpose of the application of Joseph I. O'Neill, Jr., in Case Number 3891?

A Yes, sir.

Q Have you made a study of the area involved in this application?

A We have.

Q Now, referring to the multiple-paged exhibit, which has been marked as Exhibit Number 1 and calling your attention to Exhibit A attached to that exhibit, would you identify that, please?

A This simply shows the location of the well which is known as the Joseph I. O'Neill, Jr. Federal O-Number 1, and it is located, as you can see, in the Southeast of the Southeast of Section 14. That's 25, 32. We drilled this well and completed it in the Olds Section of the Delaware and, subsequently, offset it with two dry holes which are shown here on the map.

Q Now, referring to the information contained in the first page of Exhibit Number 1, would you review that information, please, as to the completion of the well?

A Well, I just mentioned that, Jason. We completed in the Olds.

Q Completed in the Olds.

A In the Olds, in the Delaware.

Q Now, referring to Exhibit B attached to the application, would you identify that exhibit?

A Exhibit B shows the total production from the property since the time of its completion, which was in June of 1967. And as you will note in the letter attached, it shows the production for the final month, that is, the month of September, which was 558 barrels of oil and 391 barrels of water.

Q Actually, on the basis of the production history of this well, it does show a decline in the amount of water produced, does it not?

A That's correct, as well as the oil.

Q And a reduction in the amount of oil?

A Right.

Q Do you anticipate that that reduction would continue in the future?

A Yes, sir, I do.

Q Mr. Anderson, have you made a study of the fresh water that is available in the vicinity of your lease?

A We have.

Q And what did you find in connection with that study?

A Well, so far as we could find, there was no potable water anywhere in the area. Also, that there was actually no water that the cattle would drink.

Now, the water that is brought in for the cattle, part

of it comes from wells that are seven miles distance, and they are located south and east of this Federal O location. It is piped in by small plastic lines which terminates in Section 15, and they water the stock during the winter months with it, but the wells are very limited during the summer. In fact, they yield practically no water in the summer, as we were advised by the cattlemen.

There is a well 340 feet deep which I presume is in the Triassic which is located two miles west and three miles north of our property, and it produces a very limited amount of water. It's coming out of or it's on a windmill and the amount of water, oh, no more than your thumb's size.

Now, the owner told us that his calves would actually die before they would drink the water, and he adds it to a large tank which is basically filled with water from what they call the potash wells and these potash wells are six miles north and three miles east of our Federal O Well. They're on the Jal highway.

Then there's a cement-lined tank approximately two miles north of our well. However, this water is supplied by pipeline from the northeast, several miles. I never did get these wells located, but it would have to be at least five or six miles, the best we could identify it.

And the water that's used in the Paduca waterflood,

which are the properties just to the west of our single well, this comes from wells drilled by, or it's operated by the Texas Company and comes from wells drilled into the Rustler and these are approximately seven miles west of our well.

Now, I presume that this Rustler Formation is probably just like it comes out of the well near the ranch house, because if they were real good, I'm sure the people would be using them for cattle and, apparently, they are not. And as far as we could find, this is all the water in the area.

Q Did you check this with --

MR. PORTER: Excuse me. Where did you say the rancher gets his water?

THE WITNESS: He gets his water from wells seven miles southeast of there.

MR. PORTER: That's for the ranch house?

THE WITNESS: No, sir, that's just for his cattle. Now, for his ranch house, I understood him to say he got it from the potash wells which are, again, about six, seven miles across the country.

Q Did you check with the Office of the State Engineer to determine if there were fresh water wells any closer to your disposal pits?

A I did.

Q What did you find there?

A I went to their office and asked if they would investigate and let me know and Mr. Gray called me and the story he had was practically identical with this as submitted to you. The only difference being that he did not qualify the quality of the water as I had done. He said that he felt that there was water in the Triassic in the area, and I agree with him. I think this is the source of the well at the fellow's ranch, at the ranch house.

Q Now, the 340-foot well, two miles west and three miles north of your property, is the Triassic well you're talking about, is that correct?

A I think that is correct, yes, sir.

Q And that is the closest water well to your lease, is that correct?

A Yes, sir. That's right.

Q According to your investigation?

A Yes, sir.

Q Now, do you have an analysis of the water found in that well?

A I do, and it is Exhibit D, called the Robins Water Tank. Robins is the name of the rancher, and at first, the view of the analysis, you would feel that this water might well be used for

cattle because it has only 500 parts per million chlorides. However, if you will note under the sulphates, it is 1550 and, that, coupled with the calcium and the magnesium, makes what we all call gyp water. This is, of course, the very reason that not only man, but the cattle won't drink it.

Q Now, the total dissolved solids is too high for potable water.

A That's right, yes. They're 3,000 plus and they would have to be down, oh, they ought to be down in the three or four or 500 range before it would be potable.

Q As I understand your testimony, this water in small amounts is being mixed with fresh water for livestock use.

A That is correct.

Q Which would dilute the --

A Which would dilute the sulphate.

Q Now, referring to what has been marked as Exhibit C, would you identify that exhibit?

A Well, that is simply an analysis from the water from our well and which would, of course, be the water which would go into the unlined pit. As you will notice, it's typical, heavy chloride, produced brine.

Q From your Exhibit B, it would indicate you would dispose of from three to 400 barrels of water per month, is that correct?

A That is right, about thirteen, fourteen barrels a day.

Q Where is the water going at the present time?

A It is going into the pit north of the battery or near the battery, rather.

Q What size pit is that?

A It's just a typical pit, probably 25 by 50, something like that.

Q It is an unlined pit?

A Yes, sir.

Q And the past production history of that well, has that pit been adequate to take care of the produced water?

A Oh, yes. There's no water in the pit at the time you go there because the area is underlain by typical caliche and, of course, it will take anything that hits the ground. It disappears.

Q Now, the oil production has ranged from a high of approximately 800 barrels per month down to your 558, is that correct?

A Yes, sir.

Q Do you anticipate that that production will remain about the same or decline?

A No. It will, of course, continue to decline. Fortunately, the curve is not very steep, at least, at this reading, and is

also in keeping with -- quite often, it's in keeping with the Delaware wells, very similar.

Q Now, is this well being pumped?

A Yes, sir.

Q And it's the only producing well in the area, is that correct?

A That's right.

Q It is the only well in the pool, is this a correct situation?

A Yes, sir.

Q Now, what alternative do you have other than the use of the surface pits for disposing of this produced water?

A Well, of course, I can re-enter one of the offset dry holes and complete is as a salt water disposal well and, of course, you're looking at five to $10,000.00. I can lay a plastic or plastic-lined pipeline from our well to the nearest battery in the Paduca Field and the Texas Company has advised me that in all likelihood, short of a formal request, that they will take the water. This line would have to be 1.7 miles long. And the third, of course, would be to have some truck haul it to a disposal system somewhere, and the bad point of this is the fact that we're 35 miles from Jal. That's pretty lonesome country out there.

Q Then the trucking would be impractical from an

economical point of view, is this correct?

A Unless I could find some close truck, and I don't think that's possible.

Q You don't think there's any trucks closer than Jal?

A No.

MR. PORTER: How about Ochoa?

MR. KELLAHIN: I don't know whether they have trucks at Ochoa or not.

Q (By Mr. Kellahin) Your other alternative to re-enter the offset dry hole and complete it for salt water disposal well, you said it would cost approximately five to $10,000.00?

A Depending on problems you encounter. Also, a problem in that immediate area would be what zone would you dispose of the water in the offset well? I don't know whether we could put it away in the Delaware. It would run into some pretty good pressures and, why, of course, it simply increases the cost of the installation.

Q You don't know or you haven't made an investigation, so you don't know whether you could actually complete that well for salt water disposal?

A That's right, and I wouldn't know till we were doing it.

Q There's been no experience in this vicinity of salt

water disposal?

A Not nearby that I know of.

Q Now, your other alternative to lay a plastic or plastic-lined pipe from your well to the various Paduca fields at a distance of 1.7 miles, what do you estimate the cost of that?

A Well, we would have probably eight or 9,000 feet of line and that will run seventy, eighty cents a foot to buy, and several hundred dollars to lay, and I think we'd be in there, well, six or $7,000.00, probably to get over to the other system.

Q And the cost would be approximately the same as attempting to complete a salt water disposal well?

A Could well be, yes.

Q What would the pay-out be on a disposal system of that kind, based on the production you're realizing from this well at the present time?

A It would probably take a year.

Q Can that economically be justified, Mr. Anderson?

A It's pretty rough. That's the best way to state it, for this type of production.

Q In the event this application is not approved, could the requirements of Order 3221, as amended, lead to premature abandonment of this well?

A It probably would, yes, sir.

Q In your opinion, based on your knowledge of the area involved here, would continued use of the surface pit result in damage to any fresh water supply?

A I sincerely don't believe that it would.

Q Were Exhibits C through D prepared by you or under your supervision?

A Yes, sir, it was.

MR. KELLAHIN: At this time, I offer in evidence Exhibit 1 consisting of A through D.

MR. PORTER: If there are no objections, the exhibits will be admitted.

(Whereupon, Applicant's Exhibit No. 1 was admitted in evidence.)

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Anderson, have you projected the remaining life of this well? Have you made any projections as to how long it may produce?

A Honestly, I have them at the office. I didn't bring it, but you can see the decline.

Q It has produced sixteen months, so far. I mean, through September here.

A That is right, yes. And we're showing from 800 to

500, which is something in the neighborhood of 15%, probably, decline, and if we have only our present expenses, why, it will be there quite a little while.

Q It would take quite a few more months for it to pay out.

A Yes, sir, especially with its offset dry holes. We have produced 10,000 barrels, as you can see.

MR. PORTER: Anyone else have any questions? Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Anderson, according to the map of Plate Number 2, which accompanies Ground Water Report Number 6 by the New Mexico Bureau of Mines and the United States Geological Survey, there are two water wells which are approximately two to three miles southeast of Section 14, Township 25 South, Range 32 East. Those wells would be located, apparently from this Plate -- the sections aren't drawn on here -- but there would be a well located in about Section 31 of Township 25 South, Range 33 East, and a well located about in possibly Section 20.

A Those would be over in the Red Hills Unit.

Q I wonder if those wells are still producing now.

A I'll tell you probably my foreman didn't come up with them, that country is all gate-locked, east. There's a gate about a mile south and maybe a half-mile east to us, and that

gate is locked and I doubt, seriously, if he got over that far. I did not know of those wells, and if they are, they must be serving that area there, but the water being brought in by the lines are seven miles away.

Q Well, there are some wells shown on this Plate that would be about seven miles --

A About seven miles.

Q -- and they'd be down in Township 26, 33.

MR. PORTER: Mr. Nutter, are you saying that those wells are down about Section 31?

MR. NUTTER: About Section 20 and Section 31, approximately.

MR. HAYS: Three miles away?

THE WITNESS: Three miles away.

MR. NUTTER: At a point about 25, 33, which is about 33 East.

A Do you have any specifications on the well? I mean, on the water?

Q Yes. I'd like to point out now the water level. I'd like to point out that they are deep wells. The water level is given as 200 feet, and the one in Section 20, the total level of the well is 250 feet. The one in Section 31, the water level is given as 258 feet, and the total depth at 320 feet, so they would be considered deep wells.

A Now, that's the same zone then, probably, as the Robin Tank Well.

Q I would imagine that you're producing from the equivalent zone that your 340-foot well is producing from.

A Yes.

MR. NUTTER: I might also point out, Mr. Porter, that from Plate 2 of this Ground Water Report for Lea County, the nearest well producing what we call "shallow water" would be approximately eight miles north, and it would be about, well, might be about Section 16 of Township 24 South, Range 32 East, and that well is given as a total depth of 60 feet with a water level of 31.

The Eddy County Report which is Ground Water and Ground Water Resources of Eddy County, Ground Water Report Number 3 by the Bureau of Mines and the U. S. G. S. indicates that there are some water wells over in Township 25 South, Range 31 East. These, again, would be five or six or seven miles to the west.

There's one in Section 21 of that Township which has a total depth of 420 feet and a water level of 290 feet. Then there's a well in Section 1 of Township 26 South, Range 31 East, which has a total depth of 340 feet and 288 feet. So these water wells would appear to be producing from the same zone with Mr. Anderson's 340-foot well.

MR. PORTER: The Robin Well?

MR. NUTTER: Yes, sir.

MR. PORTER: Does that report indicate the quality of any of the water in any of these wells?

MR. NUTTER: Not on this map and I don't know if there's any record in the books themselves on the quality of the water or not.

MR. PORTER: The wells to which you refer to over there, the rather deep wells in Sections 20 and 31, they would be a minimum of about three miles, is that right?

MR. NUTTER: No, sir, they'd be more than that. They're in the Township to the west. They're in Township West. They're in 25, 31.

MR. PORTER: I see.

A I believe those are the wells, the area probably where Texaco gets their flood water, I guess.

Q (By Mr. Nutter) That would be in the vicinity of the Paduca?

A It's approximately where they told me their source was.

Q Do you know the quality of the Rustler water that they're using?

A I do not.

Q Rustler water, as a rule, is not very potable now, is it?

A I just presume there wasn't or somebody would be using it for cattle in there.

MR. NUTTER: I believe that's all.

MR. PORTER: Does anyone else have a question of Mr. Anderson? If there are no further questions, the witness may be excused. Does anyone else have anything to offer in this case? The Commission will take the case under advisement.

MR. ANDERSON: Thank you.

I N D E X

E X H I B I T

Number	Marked for Identification	Received in Evidence
Applicant's Exhibit Number 1	2	14

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

I, CHARLOTTE MACIAS, Notary Public 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.

Witness my Hand and Seal this 21st day of October, 1968.

Notary Public

My Commission Expires:

February 10, 1971.