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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

19 December 1984

EXAMINER HEARING

IN THE MATTER OF:

Application of Jubilee Energy Cor- poration for salt water disposal, Lea County, New Mexico.	CASE 8428
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BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:	Jeff Taylor Attorney at Law Legal Counsel to the Commission State Land Office Bldg. Santa Fe, New Mexico 87501
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For the Applicant:	W. Perry Pearce Attorney At Law MONTGOMERY & ANDREWS Paseo de Peralta Santa Fe, New Mexico 87501
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I N D E X

T. B. GARBER

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E X H I B I T S

Jubilee Exhibit One, Form	5
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3 MR. QUINTANA: We'll call Case
4 8428.

5 MR. TAYLOR: The application of
6 Jubilee Energy Corporation for salt water disposal, Lea
7 County, New Mexico.

8 MR. PEARCE: May it please the
9 Examiner, I am W. Perry Pearce, appearing in this matter on
10 behalf of Jubilee Energy Corporation.

11 I have one witness who needs to
12 be sworn.

13 MR. QUINTANA: Are there other
14 appearances in Case 8428?

15 If not, would you please stand
16 up and be sworn in, please?

17 (Witness sworn.)

18 T. B. GARBER,
19 being called as a witness and being duly sworn upon his
20 oath, testified as follows, to-wit:

21 DIRECT EXAMINATION

22 BY MR. PEARCE:

23 Q For the record, would you please state
24 your name, by whom you're employed and in what capacity?

25 A I'm Thomas B. Garber, petroleum engineer

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for Jubilee Energy Corporation.

Q And Mr. Garber, have you previously testified before the Oil Conservation Division or one of its examiners?

A Yes, sir, I have.

Q And at that time you were qualified as a geologist, is that correct?

A Petroleum engineer.

Q Petroleum engineer, and were your qualifications accepted and made a matter of record?

A Yes, sir, they were.

Q Are you familiar with the Application Number 8428 being considered here today?

A Yes, sir, I am.

MR. PEARCE: Mr. Examiner, are the witness' qualifications acceptable?

MR. QUINTANA: The witness' qualifications are accepted.

MR. PEARCE: Thank you, sir.

Q Mr. Garber, would you briefly tell the Examiner and those in attendance today the general purpose of this case?

A The purpose of this case is that we're requesting permission to inject produced salt water from wells in the Double X Delaware Field in a well that was drilled as a producer but was not completed as a producer, to enable us to dispose of salt water in an economical

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fashion.

Q Okay. Mr. Garber, I'd ask you to turn to the next to the last page of what has been marked as Exhibit Number One to this proceeding and that is a plat.

Could you indicate for the Examiner the proposed injection well and any other significant wells on there?

A The injection well was the Exxon "A" Federal No. 1 Well, located in the northeast quarter of the southwest quarter of Section 27, and the plat indicates a circle encompassing the wells that would be involved in the area, which would be the Jubilee Energy Exxon A-1, A-3, and A-4, and the Ralph Williamson No. 2 Wright Federal Well.

Q Okay. Mr. Garber, are there any other injection wells in the proposed injection formation shown on this plat?

A Yes, there are. The Graham, Bill J. Graham No. 5 Well, located in the southeast southeast of Section 22 to the northeast of our proposed well, was approved and has been injecting water about thirteen years into that well.

Q Okay, and that is another Delaware injector, is that correct?

A Yes, sir, it's the same interval that we propose to inject our water.

Q And once again, for clarification of the record, sir, your proposed injection operation is to inject

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Delaware -- reinject Delaware water back into the Delaware, is that correct?

A Produced water from our wells into the same zone, yes, sir.

Q All right, sir. Let's flip back and begin going quickly through the different pages of Exhibit Number One.

Let's begin with the well data sheet shown on the second page of that exhibit.

The first well, the Exxon "A" Federal No. 2, can you tell us about that well, sir?

A Yes, sir. That well was drilled to a depth of -- drilled to a depth of 4870 -- excuse me, 4800 feet, and it was attempted completion of that well from the interval 4854 to 4872. We had a slight show of oil and produced water and the well was temporarily abandoned for -- to make it into an injection well.

The surface casing was set at 943 feet. 8-5/8ths casing and cement was circulated to the surface, and the 5-1/2 inch production casing was set at 4977 feet and cemented with 200 sacks, which we estimated the top of the cement at about 3800 feet from the total depth of the hole.

Q All right, sir. This proposed injection operation, what is your proposed average injection rate?

A The average injection rate will be about 200 barrels a day. Maximum rate should not exceed 400 bar-

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rels a day.

Q And how about injection pressure, sir?

A We expect the well to take it on gravity but we would appreciate permission to comply with the Commission rules of .2 of a pound per 50 foot of depth or a maximum of about 800 pounds on this well.

Q All right, sir. Could you tell us about the lithology in which you expect to inject?

A The lithology of the Delaware section at this particular well is a fine grained, silty sandstone with 20 percent porosity and low permeability.

It's called the Delaware Sand. It's approximately 60 feet thick and the interval that we propose to inject in is from 4850 to 4910.

Q All right, sir, and have you found any evidence of open faults or other hydrologic connection between the disposal zone and any underground sources of drinking water?

A To the best of our knowledge there are no faults occurring at this interval and this depth in the -- from the surface to this depth in this area.

Q Okay. And, in fact, so far as you know, is there any drinking water within the area of this well?

A To the best of our knowledge there is no shallow fresh water or drinking water in this area.

Q All right, sir. Let's look to the next page.

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We have some data on the wells within the area of review. If you would run through those briefly and in addition to the information shown on the exhibit, if you would indicate to the Examiner what you believe the top of cement is in each of those wells.

A All right, sir. The first well that we drilled in the area was back in December of 1982. It was the Exxon "A" Federal No. 1 Well. It was located 1980 from the north and 1980 from the west line of Section 27.

It's the north offset to the proposed injection well. It was drilled to a depth of 4905 feet. 5-1/2 inch casing was set at 4905 and cemented with 150 sacks of 50/50 POZ mix.

We estimate the top of the cement to have been at 3805 feet.

This well was perforated in the Delaware and sand fraced and was completed as a pumping oil well.

The Exxon "A" No. 3, which is the north offset to the No. 1 Well, was drilled in November of 1983; was drilled to a depth of 4883 feet. 5-1/2 inch casing was set at 4883 and cemented with 150 sacks of 50/50 POZ mix.

We estimate the top of the cement in that well at 3783 feet.

That well was perforated from 4862 to 4874 in the Delaware and completed as a pumping oil well.

The Exxon A-4, which is the south offset to the proposed injection well was drilled in May of 1984

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and drilled to a depth of 4862. 5-1/2 inch casing was set at 4862 and cemented with 200 sacks of 50/50 POZ mix.

We estimate the top of the cement in this well at 3462 feet.

This well was perforated from 4835 to 4855 in the Delaware, sand fraced, and completed as a pumping oil well.

The Ralph -- or R. E. Williamson Wright Federal No. 2 Well was drilled in July, 1979 and was drilled to a depth of 4885. 4-1/2 inch casing was set at 4885 and cemented with 200 sacks of Class C cement.

We estimate the top of the cement in this well to be at 3408 and the well was completed from the interval 4866 to 4871 and after sand frac it was completed as a pumping oil well.

This well is now shut in and they're preparing to plug and abandon this well.

Q Okay.

A Those are the only wells, producing wells within the radius of the injection well.

Q Okay, and there are not at this time any plugged and abandoned wells within that area of review, is that correct?

A That's correct.

Q All right, sir, now let's go to the next page, which is the wellbore schematic.

A All right, sir.

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Q Could you discuss that for us?

A On the proposed injection well, again this well was drilled to a total depth of 4977. A 12-1/4 inch hole was drilled to 943 feet. On that schematic I inadvertently left that depth off, if you'd please put it there.

 The 12-1/4 hole was drilled to 943. 8-5/8ths inch casing was cemented at 943 feet with 450 sacks of Class C; the cement circulated on the surface pipe.

 The well was then drilled a 7/8ths hole to TD. A 5-1/2 inch casing was run to total depth and cemented with 200 sacks of 50/50 POZ mix.

 Again, the cement was calculated to have come up to a depth of 3800 feet.

 The perforations are 4854 to 4872, and these are the perforations that we propose to inject the disposal water into.

 We'll run 2-7/8ths inch tubing and we'll set a Baker packer at 4800 and we will install pressure gauges on the casing annulus and on the tubing to regulate the pressure and to monitor to be sure that there's no leakage underneath the packer on the annulus.

 The 2-7/8ths tubing will be plastic lined.

Q All right, sir, now if you would turn to the last page of that exhibit, is that the proof of publication as required by the rules?

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A Yes, sir.

Q All right, sir, thank you.

Do you have anything further to at this time?

A Only to say that this well, we believe, will enhance recovery to some extent in that we are injecting into the producing zone down dip from production. We hope to get some small effect from pressure maintenance, but the main thrust of the proposed well is for disposal.

The permission to give us a disposal in this well will also enhance the recovery from the reservoir in that the economic limit will be extended by relieving us of the cost of hauling and disposing of water, which is running approximately \$1.00 a barrel.

Q Because of that expense which is presently being incurred in transporting -- trucking the water, do you request expedited consideration of this matter by the Examiner?

A We would appreciate expedited consideration, yes.

Q Now, you have testified, Mr. Garber, that you do not believe there are any drinking waters within the area in light of there being no fresh waters within the area.

Do you believe that the injection well as proposed will afford reasonable protection against contamination of any fresh water supplies designated by the State

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Engineer?

A Yes, sir. To the best of our knowledge the fresh water that would be -- possibly exist in this area, would only be to a depth of about 200 feet, and we've been running this surface casing to 900 feet, plus or minus, to the first anhydrite as protection for ourselves and for any possible fresh water in there, but we have never detected any fresh water in there.

Q And that surface string is circulated?

A Cemented to the surface, yes.

Q Thank you, sir.

MR. PEARCE: I have nothing further at this time, Mr. Examiner.

I'd move the admission of Exhibit One.

MR. QUINTANA: Exhibit One will be entered as evidence.

CROSS EXAMINATION

BY MR. QUINTANA:

Q I have several questions for you, Mr. Garber.

A Yes, sir.

Q I might have missed it but I want to make sure again. Are there any windmills within the mile radius of this well?

A No, sir, there are no windmills. This is

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a very remote area. There are no windmills in the area.

Q No places to have a fresh water sample of any type?

A No, sir.

Q The lease to the northeast of this proposed disposal well is R. E. Williamson's Wright Federal?

A Yes, sir.

Q Are you a working interest owner in that?

A No, I'm not.

Q Are you aware that -- that working interest owners and leasehold owners of that lease were advised of this case?

A All the surrounding leaseowners were advised and Mr. Williamson has given us his waiver of approval on the thing.

Q Is that included here with --

A No, we sent it to him and told him, you know, to send it to the Commission or to us if he had any objection, and he just called us and offered to sell us his well that he's going to plug there if we wanted it to include in the injection system, and wanted to know whether he should go ahead and plug it.

But we've also had verbal approval from Texaco and from Bill Graham.

We have not heard from Exxon.

Q The reason I asked that question is I just want to make sure that everybody's had their fair share

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to say that you will not affect their wells in that surrounding area.

A They were all notified and it was published in the paper, and like I say, we've had verbal response from everybody except Exxon.

Q One last question I have of you.
Would you be opposed to doing a hydraulic pressure test of the casing before commencing injection in that well?

A No, sir, whatever you require.

MR. QUINTANA: I have no further questions.

Are there any other questions from anybody else for the witness?

If not he may be --

A Let me -- let me ask you, what do you mean by conducting a hydraulic pressure test?

MR. QUINTANA: Well, you know, pressure up on the casing to, say, 3 or 400 pounds.

A Set a packer in there --

MR. QUINTANA: Yeah.

A -- and pressure up on the annulus? We'll do that when we run that packer. It's a new well and, of course, we pressure tested it, but we'd be glad -- whatever requirements you have we'll be glad to.

MR. QUINTANA: I just want to make sure that it will be pressure tested.

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A It will be pressure tested.

MR. QUINTANA: If not, you may
be excused, sir.

A Thank you very much.

MR. QUINTANA: If there is no-
thing further, Case 8428 will be taken under advisement.

(Hearing concluded.)

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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8428 heard by me on Dec. 19 1984

Silvest P. Quintana Examiner
Oil Conservation Division