BEFORE THE

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

November 12, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Sun Oil Company for a pressure maintenance project, Roosevelt County, New Mexico.

Case No. 3944

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call Case 3944.

MR. HATCH: Case 3944, application of Sun Oil Company for a pressure maintenance project, Roosevelt County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin of Kellahin and Fox, Santa Fe, appearing for the applicant. We have one witness I'd like to have sworn.

(Witness sworn.)

MR. KELLAHIN: If the Examiner please, we have a brochure containing the exhibits to be presented in this case. We might suggest that we merely have it marked as an exhibit and make reference to the contents by page number.

MR. NUTTER: That will be satisfactory. Label it Exhibit 1.

MR. KELLAHIN: We have only one copy.

(Whereupon, Applicant's Exhibit Number 1, being a brochure, was marked for identification.)

FRITZ BRANDES

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Fritz Brandes.

Q Would you spell that, please?

A B-r-a-n-d-e-s.

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

A Sun Oil Company in the Odessa district as petroleum engineer.

Q Have you ever testified before the Oil Conservation Commission of New Mexico?

A No, sir.

Q For the benefit of the Examiner, would you briefly outline your education and experience as a petroleum engineer?

A I have a B.S. degree in chemistry from Lamar State College of Technology. I have been in the gas department of Sun Oil as research engineer-corrosion engineer, and for the past three years have been a petroleum engineer in the Odessa district.

Q In connection with your duties in the Odessa district, do you have anything to do with the operations of Sun Oil Company in the State of New Mexico?

A Yes, sir.

Q And does the Chaveroo-San Andres Pool come within your jurisdiction?

A Yes, sir.

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

MR. NUTTER: Yes, they are.

Q Mr. Brandes, are you familiar with the application of Sun Oil Company in Case Number 3944?

A Yes, sir.

Q Briefly, what is proposed by Sun Oil Company in this case?

A We propose to initiate a pressure maintenance project on our James McFarland Lease by injection of water into the San Andres formation through the James McFarland Well No. 4.

Now, this well is located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, of the Chaveroo-San Andres Pool in Roosevelt County.

Q Now, have you prepared a brochure containing pertinent information relating to the Chaveroo-San Andres Pool and the particular lease involved in this application?

A Yes, sir. It's all compiled in this book.

Q Which has been marked as Exhibit Number 1?

A Yes, sir.

Q Now, referring to the individual pages of material

contained in this book, would you discuss the information that's set out there?

A I'd like to refer you to page number 6, Mr. Examiner, where the proposed injection well, Well No. 4 with triangle indicated around it, this is the lease plat, the combination of two leases, the James McFarland A being on the left, SW/4, and the James McFarland Lease in the SE/4.

Present condition of the well that we propose to inject water into is shown on page 4. Eight and five-eighths inch casing set at 305 feet with cement circulated to the surface. Four-and-a-half inch casing set at 4340 feet, the top of cement at 3520 by temperature survey. This well is presently completed as a pumping oil well.

Q And is it producing from the Chaveroo-San Andres Pool as an oil well at the present time?

A Yes, sir. Our proposed injection well on page 5 of the exhibit which we propose to inject water down, two and three-eighths inch cement lined tubing under a tension packer set at approximately 4100 feet. The interval of injection would be the same as the producing interval now, 4174 to 4279.

Q Will the casing tubing annulus be filled with an inert fluid?

A Yes, sir, it will be an inhibited packer fluid.

Q And will you have a pressure gauge at the surface or

leave it open?

A There will be a pressure gauge at the surface.

Q Now, do you have any information on the productive history on this pool?

A Yes, sir. If you'll refer to pages one and two, this is the data, cumulative production data, of each lease, the James McFarland Lease on page one and the James McFarland Lease on page two.

Q What is the present production of the lease?

A Approximately, the two leases combined, approximately 175 barrels of oil per day with a combined water production of approximately 100 barrels per day.

Now, this particular well, we have a more recent test than the one that's indicated on our GOR test on page 7 and which it was shown it was producing 6 barrels of oil and 3 barrels of water. This most recent test indicates 3 barrels of oil, 3 barrels of water.

Q Three barrels of oil and three barrels of water?

A Yes, sir.

Q Then, the well, has it reached it's economic limit, in your opinion?

A Yes, sir, we feel it has.

Q Now, do you have any pressure information on this

reservoir?

A No, sir, we don't. We did have, at one time, two years ago, have a flowing well on this lease and the Oil and Gas Engineering Committee ran a bottom hole pressure throughout this field on the flowing wells. Oh, I have this. I see what you mean. Over on page 3, yes, sir, we have calculated --

Q You have calculated pressures?

A Yes.

Q Actually, these wells have all been pumping wells, have they not?

A All except two. We originally had two flowing wells on this, one on each lease.

Q But their present status, I mean they are all pumping?

A They're all pumping wells, yes, sir.

Q And you haven't taken any pressure?

A No, sir, we haven't.

Q Now, what is the source of water you propose to inject into your injection well?

A It's the produced water from both leases.

Q And what volumes of water will you inject?

A Approximately 100 barrels a day.

Q Do you anticipate that the injection of this water will maintain or at least help to maintain pressures in the Chaveroo-San Andres Reservoir?

A Yes, sir.

Q The application is for a pressure maintenance project. Are you familiar with the rules of the Oil Commission on the assignment of allowables to such projects?

A Vaguely, I am, yes, sir.

Q You understand that they are handled in each individual case on their own merits. Do you have any recommendations to make to the Commission as to pool rules in regard to allowables to be assigned in this particular project?

A Well, as I understand it, since this is classified as -- we're asking for it to be classified as a pressure maintenance, we'll have to have some indication of response. Is this not right?

Q Not necessarily.

MR. KELLAHIN: As I understand the rule, Mr. Examiner, it provides that the allowable to be assigned to a pressure maintenance project will be handled on an individual basis rather than a project.

MR. NUTTER: That's right.

MR. KELLAHIN: At this time, it would be our position, as I understand it, we are not able to make a recommendation because we do not yet know what kind of a response we might anticipate. Is this a correct statement?

THE WITNESS: This is right.

MR. KELLAHIN: So our position would be, we make no present recommendation but we would like it to be held open in the event we do get a response and we can apply to the Commission for assignment of allowables in accordance with the actual operation of the reservoir.

MR. NUTTER: As I recall the last case that we had for Sun was a pressure maintenance over in the Cato Field, and we didn't prescribe any specific rules for the pressure maintenance project there. They can always be adopted later on, if necessary.

You don't have any gas-oil ratio problem here, do you?

THE WITNESS: No, sir. The last gas-oil ratio we had on this well was 1750.

MR. NUTTER: How about the other wells?

THE WITNESS: We have one well that would be McFarland Number 3 that is 2064 to 1 ratio and I think the limit in the field is 2000 to 1.

MR. NUTTER: That allowable is not penalized, however, is it, because of the low productivity of the well?

THE WITNESS: Right.

MR. NUTTER: So if you don't have any gas-oil ratio problem on any of these wells, there's no necessity at this time

to get into the Z factors and all the other complicated pressure maintenance rules for gas credit on high GOR's and so forth.

Q (By Mr. Kellahin) Mr. Brandes, in your opinion, will the injection of water into this producing formation result in the recovery of oil that would not otherwise be recovered?

A Yes, sir.

Q Will it cause any damage to the reservoir, in your opinion?

A No, sir.

Q Will the correlative rights of any offset operators be protected?

A Will it be what?

Q Will the correlative rights of offset operators in any way be impaired?

A No, sir.

Q Was Exhibit Number 1, a brochure consisting of 8 pages, prepared by you or under your supervision?

A Yes, sir.

Q And also contained in the exhibit, is there a log of the well?

A Yes, sir, it's in the attachment on the back.

Q Do you have any comments to make about the log?

A No, sir, it's just a densilog of the formation run by Lang Wells. It does show our perforations.

MR. KELLAHIN: At this time, I offer in evidence Exhibit Number 1.

MR. NUTTER: Applicant's Exhibit 1 will be admitted in evidence.

(Whereupon Applicant's Exhibit Number 1 was admitted into evidence.)

MR. KELLAHIN: That's all I have under direct examination. Do you have anything to add, Mr. Brandes?

THE WITNESS: No.

MR. KELLAHIN: That completes the direct examination of the witness.

MR. NUTTER: Are there any questions of Mr. Brandes?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Brandes, now, referring to your page 7 there, you show that this test on July the 23rd of the McFarland No. 4 was 6 barrels of oil. You stated that you think it now makes about 3 barrels?

A We tested the well in the month of October, Mr. Examiner, and it did test 3 barrels of oil.

Q Was that a 24-hour test?

A Yes, sir.

Q Because I note that this was a 12-hour test here in July.

A Well, that was on a pump cycle. We have a surveillance program where we determine the capacity. We're producing at capacity on these stripper wells and this was determined at this time.

Q In other words, it's a 24-hour test, but it only produced half the time?

A On this 6-hour test, yes, sir, but we did put it on a 24-hour basis prior to this hearing.

MR. NUTTER: Are there any further questions of Mr. Brandes? He may be excused. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all, Mr. Nutter.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3944? We'll take the case under advisement.

I N D E X

EXHIBITS	MARKED	OFFERED AND ADMITTED
Applicant's Exhibit Number 1	2	11

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, CHARLOTTE MACIAS, Court Reporter and 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.

Charlotte Macias
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3944, heard by me on 11/12, 1968.

Examiner
New Mexico Oil Conservation Commission