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BEFORE THE  
NEW MEXICO OIL-CONSERVATION COMMISSION  
Santa Fe, New Mexico  
October 23, 1968

EXAMINER HEARING

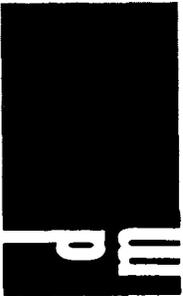
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IN THE MATTER OF: )

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

) Case 3895  
)  
)  
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BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING



MR. NUTTER: We will now call Case No. 3895.

MR. HATCH: Application of Sun Oil Company for a pressure maintenance project, Chaves County, New Mexico

MR. KELLAHIN: If the Examiner please, Jason Kellahin, Kellahin and Fox, Santa Fe, appearing for the Applicant in association with Mr. Granville Dutton, a member of the Texas Bar who will present the case.

MR. DUTTON: We have one witness, Mr. Examiner.

(Witness sworn.)

MR. DUTTON: Mr. Examiner, our exhibits are contained in brochure form. Do you want each item to be marked as an exhibit or the entire brochure marked as an exhibit.

MR. NUTTER: The brochure can be identified as Exhibit A or 1 and then you can refer to the items as items.

MR. DUTTON: All right, I would like to have it so identified.

(Whereupon, Applicant's Exhibit 1 marked for identification.)

\* \* \* \* \*

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

DIRECT EXAMINATION

BY MR. DUTTON:

Q Would you state your name for the record, please?

A Robert J. Ridgeway.

Q By whom are you employed and where?

A Sun Oil Company, in Dallas, Texas.

Q In what capacity?

A As a Regional Petroleum Engineer.

Q In this capacity, does the area of the Cato - San Andres field come under your supervision?

A It does.

Q Have you had an occasion to make a recent study of this field with particular reference to the subject matter of this hearing?

A Yes.

Q Have you testified previously as an expert before the Oil Conservation Commission?

A No, sir.

Q Would you give a brief resume of your educational and professional background?

A I graduated from Texas A & M in 1948 with a B. S. in Petroleum Engineering and B. S. in Mechanical Engineering. I was employed by Sun Oil after graduation and served in a training program for approximately a year. Following that I went into the Reservoir Section and in 1950, I was moved to Dallas. About three years ago, I became a Regional Petroleum Engineer, and early this year, I took charge of the West Texas Region.

Q And New Mexico is included under this region, is it not?

A Yes, sir.

MR. DUTTON: We would like to submit the witness's qualifications, Mr. Examiner, as an expert Petroleum Engineer.

MR. NUTTER: The witness is qualified, please proceed.

Q (By Mr. Dutton) Mr. Ridgeway, have you prepared a brochure containing exhibits pertaining to this hearing?

A Yes, I have.

Q Would you briefly describe the contents of this brochure?

A Well, on page 1, we have a list of the contents. We have a description of the initial completion on the New Mexico State H Lease. The next page contains a tabulation of production from the H. Lease and the next page shows a calculation of the present reservoir voidage from the Lease. We have a Well diagram on New Mexico H State Well No. 13 as presently completed; we have a schematic of a proposed water injection well, which will be the New Mexico State H No. 13. We have included a water analysis report, the production performance graph, a plat showing the New Mexico H State Lease and we have a log on the proposed water injection well.

Q Now, Mr. Ridgeway, what is the current production on the New Mexico State H. Lease?

A On page 3 this is shown, and for August the oil production was 20,838 barrels. The gas was 10,402 mcf, water production was 3,059 barrels.

Q What's the significance of the asterisk under your gas production for the month of August?

A Well, effective the 1st of August, the gas was gathered and is being taken by Cities Service.

Q So that represents a measured volume for that month, does it not?

A Yes, sir.

Q What is the current production from the proposed injection Well H 13?

A For the month of August, H 13 produced 289 barrels of oil and 279 barrels of water.

Q What is the current reservoir voidage from the H Lease using the August rate as the last test date?

A Following the tabulation, we have a sheet showing our calculation of voidage, and using the August production, the monthly total was 43,379 barrels.

Q At what rate do you propose to commence injection into H 13?

A Initially, approximately 5,000 barrels a month.

Q What will be the initial sources of the injected water into the H 13?

A We intend to gather the water from the New Mexico H Lease, that's about 3,000 barrels, and our Woodman Federal Lease, which is about a mile and a half to the south, produces about 2,000 barrels and we intend to gather that also.

Q Please explain how Well H 13 will be converted for injection services if this application is granted.

A In our brochure, we have a schematic showing how the well will be completed. We will remove the equipment presently in the well. We'll run 2 and 3/8ths tubing, cement-lined, we'll set a packer at 3370, which is above the perms, and we intend to fill the annulus with an inhibited water. It might be noted on the schematic that the top of the cement from temperature survey was found to be 2517 feet, and on our surface, we circulated cement, on our surface pipe, we circulated cement back to the surface.

Q And injection would be directly into the San Andres producing formation, is that correct?

A Yes, sir.

Q What is the current oil production trend on the H Lease?

A Well, as shown on our performance graph, the lease hit a peak in October of 1967, and since that time it's been showing a steady decline.

Q Has this decline in trend influenced your conclusion that water should be injected into the producing formation?

A Yes, sir, because the production is mainly due to the lack of capacity of the wells.

Q What project area do you recommend for this pressure maintenance injection program?

A Following the performance graph, we have a plat showing our New Mexico H Lease, and we recommend the project area be the southeast quarter of the section.

Q Does that plat also indicate the location of the proposed injection well?

A Yes, sir, it does. The injection well is marked with a triangle.

Q Are there any offsetting producing wells to the proposed injection well?

A No, sir, no offsets, no immediate offsets to the proposed injection well.

Q Does the plat also indicate the source of the other water from the Woodman Federal Lease?

A Yes, sir, to the southwest about, a little better than a mile, and it's shown there, Woodman Federal Lease.

MR. DUTTON: Mr. Examiner, at this time, I would like to submit the brochure as Sun Oil Company's Exhibit No. 1.

MR. NUTTER: Sun Oil Company's Exhibit No. 1 will be admitted in evidence.

(Whereupon, Sun oil Company's Exhibit No. 1 offered and admitted in evidence.)

MR. DUTTON: Thank you.

Q (By Mr. Dutton) Mr. Ridgeway, in your opinion, would injection in the San Andres through the proposed Well H 13 cause waste or violate correlative rights?

A No, sir, we are hopeful that the injection of the produced water into No. 13 will serve to partially maintain pressure and perhaps lead to more oil recovery on our lease. We intend to monitor the offsetting wells to the injection well and if this area proves floodable, we have in mind extending this injection program.

Q Do you have anything further?

A Furthermore, by taking this proposed water and injecting it for this partial pressure maintenance, we will eliminate pollution of the surface acreage.

Q Eliminate the danger of pollution?

A The danger, yes.

MR. DUTTON: Mr. Examiner, that concludes our

direct case on this matter. The witness is available for any questions that anyone might have.

MR. NUTTER: Does anyone have any questions of the witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Ridgeway, you stated that the annulus would be loaded with inhibited water?

A Yes, sir.

Q Can that annulus be left open or equipped with a gauge at the surface?

A Yes, it will be.

Q Which?

A With a gauge.

Q Equipped with a gauge. Do you have a recent test on this No. 13 Well, Mr. Ridgeway?

A No, sir, I don't. I have the August production, that's the last test I have.

Q Normally in our pressure maintenance orders, we prescribe that the injection well, when it is placed on disposal, would have the allowable as established by a test prior to conversion, and then that allowable can be distributed to the other wells in the project area. This well can be

tested prior to putting it on disposal and a test filed with the Commission?

A Yes, sir.

MR. NUTTER: I presume, Mr. Dutton, that the normal type of pressure maintenance rules that the Commission issues would be suitable for this project?

MR. DUTTON: Yes, sir, they would. This particular project area will be unable to utilize initially the transferred allowable. We are hopeful that it will change with time.

MR. NUTTER: The decline is there and you hope to arrest the decline?

MR. DUTTON: Yes, sir.

MR. NUTTER: Are there any other questions of the witness? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Dutton?

MR. DUTTON: I would like to point out that Pan American, the offset operator to this injection well, has been notified and sent a copy of the Application, and Mr. Guy Buehl and Mr. George Board have both informed me that Pan American has no objection to the granting of this injection permit.

MR. NUTTER: Does anyone have anything now they wish

to offer in Case 3895? We will take the case under  
advisement.

I N D E X

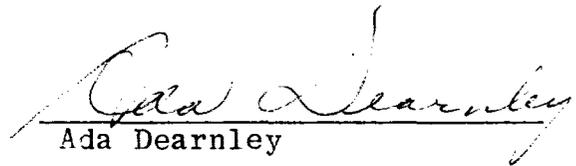
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| <u>EXHIBITS</u>   | <u>MARKED</u> | <u>OFFERED AND<br/>ADMITTED</u> |
|-------------------|---------------|---------------------------------|
| Applicant's No. 1 | 2             | 8                               |

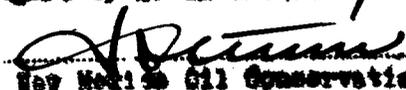
STATE OF NEW MEXICO    )  
                                   ) SS  
 COUNTY OF BERNALILLO    )

I, ADA DEARNLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand this 1st day of November, 1968.

  
 Ada Dearnley

I do hereby certify that the foregoing is a complete record of the proceedings in the Explorer hearing of case No. 3893, signed by me on 10/23, 1968.

 , Examiner  
 New Mexico Oil Conservation Commission