BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 1, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of Champlin Petroleum Company for a unit agreement, Roosevelt County, New Mexico.

Application of Champlin Petroleum Company for a waterflood expansion and amendment of Order No. R-3550, Roosevelt County, New Mexico.

Cases 4377 4378

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. KELLAHIN: I am Jason Kellahin, Kellahin and Fox, Santa Fe, appearing for the applicant.

We would like to move that case 4377 and 4378 which relates to a waterflood of the same tract involved in 4377, we'd like to move that they be consolidated for the purposes of testimony.

MR. UTZ: Cases 4377 and 78 will be consolidated for the purposes of testimony.

MR. KELLAHIN: We'd like one witness sworn, please.

WALTER SANER,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q You are Walter Saner. What is your position, Mr. Saner -- by whom are you employed?

A I'm employed by Champlin Petroleum Company. I am a staff engineer specializing in secondary covering waterflooding.

Q Where are you located?

A Fort Worth, Texas.

Q In connection with your work as staff engineer do you have anything to do with the proposed Chaveroo-San Andres Pool waterflood project?

A Yes, sir.

Q And agreement?

A Yes, sir.

Q Have you ever testified before the Oil Conservation Commission?

A No.

Q For the benefit of the examiner would you briefly outline your educational experience?

A I graduated in 1950 from the University of Oklahoma, Petroleum Engineering degree, Bachelor of Science and I went to work for Champlin Petroleum Company, that is predecessor, in 1951. I have been with the same company since.

Q What have you done since this period of time?

A I was in general engineering until the year 1957, which would be drilling, production, everything, and I have specialized in secondary recovery waterflooding since 1957.

Q And what area have you been working in during that period of time?

A I have worked all the central states; Texas, Oklahoma, Rocky Mountains -- not particularly New Mexico except for Cheveroo.

MR. KELLAHIN: Are the witnesses qualifications acceptable?

MR. UTZ: Yes. They are.

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

Q (By Mr. Kellahin) Mr. Saner, referring to what has been marked as the applicant's Exhibit No. 1 in this case, would you identify that exhibit, please?

A Exhibit 1 is the unit agreement for the development and operation of the State 32-7-33 unit area, Roosevelt County, New Mexico.

Q Now, what land is covered by this unit agreement?

A This covers all of Section 32, Township 7 South, Range 33 East, Roosevelt County.

Q Is that state, federal or fee acreage?

A It is all state acreage.

Q Do you know who the beneficial institution is -- is it common-school land?

A It is common-school land.

Q Who are the working-interest owners?

A The working-interest owners under the whole tract is each is fifty-fifty, Champlin Petroleum and Warren American Petroleum Company.

Q Have they both agreed to the provisions of this unit agreement?

A Yes.

Q What is the participation factor under the unit

agreement?

A The participation factor is based on the oil production last six months of 1969.

Q The tract if fully developed, is that correct?

A Well, no. There are three locations that have not been drilled.

Q Now, on the overriding royalities, have the owners agreed to this agreement?

A Well, we expect to -- we have submitted the form and ratifications to them and anticipate approval on the overriding royalties.

Q They are listed in the exhibit attached to the agreement, are they not?

A Yes.

Q Now, has this unit agreement been submitted to the Commission of Public Lands for approval?

A Yes.

Q And have you received preliminary approval of it?

A We have received preliminary approval as to form and content.

Q Subject to the approval of this Commission of the final approval, is that correct?

A That is correct.

Q There is a provision in the unit agreement for

expansion and subsequent joinder?

A Yes.

Q And is it a form of unit agreement that has heretofor been approved by this Commission?

A Yes.

Q Formally recommended by the State Land Commissioner, is that correct?

A Yes.

Q Now, Mr. Saner, do you have a waterflood project presently under way on the lands that are affected by this units agreement -- well, prior to getting to that, is there an exhibit marked as Exhibit 1?

A Exhibit 1 is the outstanding operating agreement between Warren American and Champlin Petroleum Company which will cover the operating portions of the unit.

Q And is that in a standard form that has been used before in other cases?

A I am not sure if it is standard for the State Land, but it covers our operations under this and other acreage in the area. It was not made specially for this unit. It was existing prior to this unit.

Q You have used the same form in other operations in this area, is that correct?

A Yes, sir.

Q Now, is this area subject to a waterflood project at the present time?

A Yes. It is.

Q Do you know the number of the order approving that project -- I believe it is R-3550, is that correct?

A I believe that is correct, yes -- 3550.

Q And in your application for waterflood expansion, your expanding that flood, it was a pilot flood?

A It was a pilot flood, yes.

(Whereupon, Applicant's Exhibit 2 was marked for identification)

Q Now, referring to what has been marked Exhibit 2, would you identify that exhibit?

A Exhibit 2 is a large map showing the proposed units. It shows off-set wells around it; other property owners. It shows the present in-put well on the Section 32 unit. It shows two other in-put wells we have on the property to the north.

(Whereupon, Applicant's Exhibit 3 was marked for identification)

Q Now, referring to what has been marked Exhibit No. 3, would you identify that exhibit?

A Exhibit 3 is a map which shows only the proposed unit in Section 32-7 South, 33 East. It shows the wells. It shows the present in-put well which is State 32-7-33 Well No. 5. It shows the proposed in-put well which will be State 32-7-33

Well No. 1.

Q Now, is that an existing well?

A It is an existing, producing well.

Q And that will be converted to injection, is that correct?

A Yes.

Q What is the location of that well?

A That well is in the Northwest of the Northeast Section 32, Township 7 South, Range 33 East.

(Whereupon, Applicant's Exhibit 4 was marked for identification)

Q Now, referring to what has been marked as Exhibit No. 4, would identify that exhibit, please?

A Exhibit 4 consists of three pages. Each is a graph showing production performance on the three tracts which will be consolidated into this unit and they are called Hondo State, Shell State and State 32-7-33 leases and they show that these leases are essentially approaching depletion and shows the water performance versus time and also the one on State 32-7-33 shows a performance from the water injection and it also shows the date the water injection was started. It started in January of 1969.

Q You say that well has shown some response to the injection program, has it?

A There is one well on this lease that is reflected in this curve of the total lease.

Q Do you know which well that is that shows the response?

A Yes. It is No. 9.

Q Where would it be located?

A No. 9 is located northwest diagonally from our present injection well No. 5.

(Whereupon, Applicant's Exhibit 5 was marked for identification)

Q Now, referring to what has been marked Exhibit No. 5, would identify that exhibit, please?

A Exhibit 5 is a tabulation of the individual well current rate data and this shows the oil rate for each well in the proposed unit; the water rate, barrels per day and gas rate, water per cent and gas-oil ratio.

Q Does this indicate that this pool in this area is in an advanced stage of depletion?

A Yes, sir. It does.

Q And does it indicate that there has been some response to the flooding, the pilot flood project?

A Yes, which can be seen in well No. 9.

(Whereupon, Applicant's Exhibit 6 was marked for identification)

Q Now, referring to what has been marked Exhibit No. 6,

would you identify that exhibit?

A Exhibit No. 6 is a tabulation of the injection wells statisics, Well No. 5, and this shows the in-put rate, barrels per day, well head pressure, in-put for the month and cumulative water in-put figures.

Q You have the cumulative injection to date, is that correct?

A Yes.

Q What pressures do you find operate the best in this pool?

A Well, from this tabulation you can observe that as the rates increase the pressure leveled off at approximately 800 pounds well head pressure and we think that indicates an operating fracture pressure at which we'd like to stay at or below.

Q You don't anticipate exceeding that at least until you get fill up, is that correct?

A Right. That is another on the long term. We expect that the fracture pressure will increase as the reservoir is pressured up and that it may, late in its life, go as high as 2000 pounds well head pressure.

Q Maximum pressure then you say 2000 pounds maximum?

A Yes. 2000 pounds. We'd like to have permission to go that high.

Q What rate of injection would you use on these

injection wells in the future?

A Up to a maximum of 1200 barrels of water per day.

Q That would be for each injection well?

A Per well.

Q Now, in your application you ask for approval, an administrative procedure for approving other injection wells. Would that figure apply to them too?

A Yes.

(Whereupon, Applicant's Exhibit 7 marked for identification)

Q Referring to what has been marked as Exhibit No. 7, would identify that exhibit, please?

A Exhibit 7 is a diagrammatic sketch of our proposed well completion for State 32-7-33 Well No. 1. It shows the casing, tubing, cement top perforations.

Q That is the existing completion, is it not?

A Essentially, except we have put a proposed packer in and tubing seating which might vary a small amount, but we would put a packer in the well.

Q It would be essentially at that depth?

A At that depth, right.

Q Otherwise the completion is as shown and is presently existing, is that correct?

A Yes.

Q The cementing is shown?

A The cementing, the casing, the perforations and everything else would remain the same.

Q Would the casing to the annulus be treated with water?

A We'd fill it with treated water.

Q Would you put any pressure gases at the surface?

A Yes.

Q Will you use an internal-coated tubing?

A No. We desire to use a tubing as it is and the reason for that is that the life of this project is extremely short and we'd like to -- the cost really doesn't justify in this instance.

Q Did you get approval for the use of uncoated tubing in your pilot injection well?

A Yes. On this lease as well as the two leases to the north in Section 29.

Q Have you had any problems with corrosion in those wells?

A No.

Q Are you using coupons for testing the water?

A We have just started using coupons and intend to use them in the future at the in-put wells. We have used coupons on production wells and have been analyzing the produced water system.

Q You are injecting produced water in here, are you not?

A Yes.

Q We will get to that in a moment. Are you treating the injected water?

A No.

Q Not at the present time?

A Not at the present time.

(Whereupon, Applicant's Exhibit 8 marked for identification)

Q Now, referring to what has been marked as Exhibit No. 8, will you identify that exhibit?

A Exhibit 8 is an electric log upon which has been marked the perforations and the top of San Andres Formation of the proposed in-put Well No. 1.

(Whereupon, Applicant's Exhibit 9 was marked for identification)

Q Referring to what has been marked as Exhibit No. 9, would you identify that exhibit, please?

A Exhibit No. 9 shows the gathering system in this portion of the field from the various leases wherein we gather all the produced water delivered to a central point in Section 32 and it is pressured and it shows the injection lines to the various injection wells both on this proposed unit and to the north, Section 29.

Q Now, the source of your water then is produced water.

Is that from your own leases or other operator's too?

A It is mainly our own leases, but there are minor amounts coming from other operator's leases.

Q And is this from the San Andres Formation?

A It is all from the San Andres Formation.

Q And you are reinjecting into it?

A Yes.

Q Is this being done elsewhere in this area?

A Yes. It is. I know it is being done under the operation as a disposal operation, taking produced water, putting it back in the San Andres -- probably not to the extent, as large an extent as we have and I am not sure if it is being done on a waterflood basis or not.

Q Do you have a water analysis of the produced water?

A Yes. That is Exhibit 10.

(Whereupon, Applicant's Exhibit 10 was marked for identification)

Q Have you made a recheck on the water analysis -- has there been a more recent analysis made?

A Yes. There has.

Q Is it essentially the same as this one you are submitting now?

A Yes. It is.

Q As a matter of fact, Mr. Saner, the pilot injection

proposal has had only a very small response, isn't that correct?

A Yes.

Q But it has had a response?

A Yes.

Q Now, when Champlin originally filed this application which resulted in Order No. 3550, they applied for salt water disposal, did they not?

A Yes.

Q But at the hearing it was developed that this would probably result in some additional recovery and the case was changed to secondary recovery, is that correct?

A Yes.

Q And you feel today that it is essentially a secondary recovery project rather than salt water disposal?

A Yes.

Q Although in fact it serves both purposes?

A Yes. It serves both purposes. You can look at it either way.

Q Now, in the application, the applicant applies for an adminstrative procedure for the conversion of wells or the drilling of additional injection wells whether or not there has been a response to the flood. Do you feel that is essential to the efficient operation of this project?

A Yes.

Q Do you anticipate that other injection wells will be drilled or producing wells converted?

A Yes.

Q At this time could you say which wells or where they might be located?

A Not for sure. Our plan is to watch this flood and observe the existence of oriented fracturing for a trend and then be flexible enough to add wells in the proper locations as they prove themselves.

Q Is that the reason then for your request for an administrative procedure?

A Yes.

Q Were Exhibits 1 to 10 inclusive prepared by you or under your supervision?

A Yes.

MR. KELLAHIN: At this time I'd like to offer Exhibits 1 through 10.

MR. UTZ: Without objection, Exhibits 1 through 10 will be entered into the record in this case.

(Whereupon, Applicant's Exhibits 1-10 were entered into the case)

MR. KELLAHIN: That completes the direct examination, Mr. Utz.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Saner, how long have you been injecting water in the wells with uncoated tubing?

A Since January of 1969.

Q And have you had occasion to check that tubing to see whether there was any corrosion or not?

A Not the tubing, but we have a pressure gauge on the annulus and we have had no problem there. We checked the well head filter. If it was corrosive it would show in the flanges and -- unions is the word -- and there has been no corrosion on the surface connections. We have had no leaks.

Q You are not using anything to check it?

A We have, on the production system, the same water arriving to the plant, but we haven't had it on the down stream side.

Q What has been your result with the coupons on the production?

A Those coupons show from O-1 to O-4 which is very, very minor corrosion and there has been no evidence of corrosion on any of the production equipment.

Q This is pretty salty water. I was wondering about that.

A Yes. Our experience is that the saltiness doesn't

mean it is necessarily corrosive. It is the other chemicals.

Q It is a closed system, too, is it not?

A Yes.

MR. UTZ: I have no other questions of the witness. You may be excused.

Statements?

MR. KELLAHIN: That is all, sir.

CROSS EXAMINATION

BY MR. HATCH:

Q Are these tank batteries on here?

A Yes. Those circles are tank batteries. Let me change something. We do have coupons. About two months ago we put coupons in the in-put wells but they haven't been analyzed so we intend to keep them in there and we have started it but we don't have an analysis.

MR. UTZ: Any statements to be made?

The case will be taken under advisement.

I N D E X

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, Peter A. Lumia, Certified Shorthand 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.

Peter A. Lumia
Certified Shorthand Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4377 heard by me on 30

..... Examiner
New Mexico Oil Conservation Commission