

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 28, 1975

EXAMINER HEARING

IN THE MATTER OF:)

Application of Texas Pacific Oil Co.)
for pool contraction and extension,)
Lea County, New Mexico,)

) Case No.
) 5488

) and)

) and)

Application of Texas Pacific Oil Co.,)
Inc., for a waterflood expansion, Lea)
County, New Mexico.)

) Case No.
) 5489

BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Applicant:

John F. Russell, Esq.
412 Hinkle Building
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I N D E X

	<u>PAGE</u>
Direct Examination by Mr. Russell	3
Cross Examination by Mr. Stamets	13
Redirect Examination by Mr. Russell	14
Recross Examination by Mr. Stamets	15

E X H I B I T S

	Marked	Admitted
TP's Exhibits Nos. 1 through 8	--	12

MR. STAMETS: Call Case 5488, being Application of Texas Pacific Oil Co. for pool contraction and extension, Lea County, New Mexico.

MR. RUSSELL: John F. Russell, Roswell, New Mexico, appearing on behalf of the Applicant, Texas Pacific Oil Co., Inc. I have one witness.

MR. STAMETS: Any other appearances in this Case?

MR. RUSSELL: Mr. Examiner, may we consolidate this Case with 5489 for purpose of testimony?

MR. STAMETS: If there is no objection the two cases will be consolidated. Case 5489 is the Application of Texas Pacific Oil Co., Inc., for a waterflood expansion, Lea County, New Mexico.

The Witness will stand and be sworn, please.

(Witness sworn.)

ALLEN O. WICKE

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

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name, address, name of your employer, and the capacity in which you are employed?

A I'm Allen Wicke with Texas Pacific Oil Company; I live in Midland, Texas, and work with Texas Pacific as a Petroleum Engineer.

Q And you have previously qualified to give expert testimony before this Commission, have you not?

A I have.

Q And you are familiar with the Applications of Texas Pacific Oil Company, Inc., in both Cases 5488 and 5489, are you not?

A Yes.

Q One is for 5489 is for waterflood expansion in Lea County, 5488 is for pool contraction and extension in Lea County, is that correct?

A That's correct.

Q In connection with these Applications have you prepared some exhibits?

A Yes, I have.

Q I will refer you to what has been marked as Applicant, or TP Exhibit No. 1, and ask you to explain what is reflected on this Exhibit in connection with these Applications.

A Exhibit No. 1 is a plat of the area in question. The area colored in yellow represents a portion of our

State "A" Account 1 Lease.

Q Now, does this reflect the proposed expansion of your waterflood, and if so, describe the location and well designation for both your injection wells and your production wells.

A Yes. Our proposed expansion of the Langlie Mattix waterflood is represented in the red outline and the proposed injection well is Well No. 47, Unit K, and Well No. 63 in Unit I of Section 3, and Well No. 84 in Unit G of Section 23, red triangles represent them -- the proposed injection wells.

Q Does this Exhibit also reflect the offsetting floods?

A Yes. There are several floods offsetting our proposed waterflood expansion of this. Atlantic Richfield operated Seven Rivers-Queen Unit offsets . Our proposed injection well is 47 and 63 immediately to the north, and the Continental-operated Langlie Lynn Unit offsets our proposed injection well No. 84 immediately to the south, and there are other waterfloods in the area.

Q Now, referring you to Exhibit No. 2, 3, and 4; what are they?

A These three exhibits are logs of our proposed

injection wells. Exhibit No. 2 is the log of Well No. 47, Exhibit 3 the log of Well 63, Exhibit 4 a log of Well No. 84. On the logs I have marked all the pertinent data, including tops of zones, estimated gas-oil contacts and oil-water contacts, and perforations, either present or proposed.

Q Did you give the location of the injection wells and the production wells, other than referring to them on the Exhibit? If not, will you locate them by Unit?

A The production wells?

Q Production wells from your Application and also the injection wells you propose?

A I think I pointed out the --

Q (Interrupting) I'm just trying to get them located.

A Okay. Our three proposed -- well, first, in Section 3 we are proposing two injection wells, Well No. 47 in Unit K and Well No. 63 in Unit I, and the producing wells associated with these injectors are Well No. 46 in Unit L, 43 in Unit N, 48 in Unit N, 64 in Unit O, and 69 in Unit P, and did I mention 63 in Unit J.

Q All right. Now, I refer you -- go ahead.

A In Section 23 we are proposing a injection, which is in Unit G, and the producing wells associated with this injecture are Well No. 73 in Unit C, 98 in Unit D, 109 in Unit A, 27 in Unit F, and 105 in Unit H.

Q And that's all of them?

A That's all.

Q Okay. Now I refer you to what has been marked as TP Exhibits 5, 6, and 7, and ask you what they are?

A These three exhibits are wellbore sketches of the proposed injection wells.

Q And each Exhibit shows the total depth of each well, the cementing program, tops of cement, casing size, and perforations, do they not?

A Correct. We show on all three exhibits perforations which are presently existing and proposed perforations if any, and also we show how we propose to complete the wells as injectors.

Q And how do you propose to complete them? For example, I refer you to Well No. 47 and the schematic on it.

A Yes, sir.

Q Where is your plastic-coated tubing and so forth?

A Okay. We would set 2-3/8th-inch plastic-coated tubing and a tension packer at approximately 3600 feet.

Q And then how about Well No. 63, what is your proposed completion there?

A First of all we would squeeze off the present perforations and drill out the bridge plugs and we'd set 2-3/8th-inch plastic-coated tubing on tension packer at approximately 3620 feet.

Q And also this is injection through plastic-coated tubing, is it not?

A Correct.

Q And it indicates that bridge plugs will be set at 3635 feet?

A No, there is presently a bridge plug there.

Q That is presently there?

A And we would drill it out prior to injection.

Q All right. Now, referring to what has been marked as TP Exhibit No. 8, I ask you to explain to the Examiner what this particular exhibit reflects and the testimony on this is directly directed to Case No. 5488.

A Yes. Exhibit 8 is a cross section through the area that we are proposing to -- we're asking the Commission to revise the pool vertical limits on. This cross

section runs -- starting on the west side it takes in Well No. 96, which was a dry hole in Unit C of Section 4 -- and it runs east through Well 42 in Unit A and south to Well 45, Unit H, and southeast to Unit L in Section 3. From there it goes east up through Well 63 which is in Unit I of Section 3. On this cross section I have marked in heavy solid lines the top of Seven Rivers and the base of the Seven Rivers. Now, the heavy dashed line, which is 100 feet above the base of the Seven Rivers, represents the present top of the Langlie Mattix interval.

Also marked on the cross section is a red line at minus 150 subsea, which represents our estimate of the gas-oil content in the field, and the blue line at minus 270 feet subsea represents our estimate of the water-oil content in this area of the field. I would like to point out that the separation between these two lines is only 120 feet, which represents the growth section which is available to the production of oil, but the heavy solid line again, which represents the upper limit of the Langlie Mattix Pool, essentially runs midway between these two lines, so this reduces our interval to produce oil from -- it reduces the interval to about 60 feet as far as the Langlie Mattix Pool oil section.

Q Now, on the basis of this Exhibit, what specifically are you asking the Commission to do in connection with these pool limits?

A As to the N/2 of the NE/4 in the SE/4, and the SE/4 of the NE/4 of Section 4, Township 23 South, Range 36 East, we're asking that the pool limits be revised by deleting from the Jalmat gas formation the lower 160 feet of the Seven Rivers and to concurrently extend the vertical limits of the Langlie Mattix Pool to include the lowermost 160 feet of the Seven Rivers Formation, and as to the NW/4 of the SW/4 of Section 3, Township 23 South, Range 36 East, we are asking that the lowermost 135 feet of the Seven Rivers formation be deleted from the Jalmat Gas Pool and that the Langlie Mattix Pool be concurrently extended to include the lowermost 135 feet of the Seven Rivers.

Q Has a similar application in the same pool been approved by the Commission?

A Yes. The vertical limits between the Jalmat Gas and the Langlie Mattix Oil Pool were revised for the Langlie-Jal Unit, which is operated by Union Texas Petroleum. The revision here was to delete the entire Seven Rivers formation from the Jalmat Gas and to include it

into the Langlie Mattix for most of the unit area.

Q In your opinion will the granting of the two Applications prevent waste and protect correlative rights?

A Yes.

Q And were Exhibits 1 through 8 prepared by you or under your direction and supervision?

A Yes. I would like to elaborate further on Exhibit 8 if I might.

Q Okay.

A The weaker dashed line on the Exhibit, which essentially coincides with the red line on most of the cross section, represents the new upper limit of the Langlie Mattix Pool which, upon approval of our Application, will end, and in this case it would place all the oil sands within the Langlie Mattix Pool. I would also like to point out that there are two gas wells which fall into the area that we're requesting this provision: The first one is the second well from the left on the cross section, which is Well No. 23 in Unit P, Section 4, and as is evident on the cross section, this well is completed entirely in the Yates formation, so there would be no interference from our producing the lowermost 160 feet of the Seven Rivers here as an oil zone. The other

gas well is Well No. 35, which is in Unit L of Section 3. With this we're asking for the lowermost 135 feet of the Seven Rivers to be included into the Langlie Mattix. This particular well was drilled down to within a few feet of the gas-oil contact, but it did not penetrate the uppermost zone, which would fall within the Langlie Mattix Pool then upon approval of our Applications, so there would be no interference with this gas well either.

Q Is there anything further you would like to point out on that Exhibit or any others that you have gone through?

A I would just like to point out here again the narrow Morrow interval we have here of 135 feet and the proximity to the gas zone and also to the water zone. We're going to have a pretty difficult flood as it is and we feel like our Application is reasonable.

Q Were Exhibits 1 through 8 prepared by you?

A Yes.

MR. RUSSELL: At this time I would like to introduce TP's Exhibits 1 through 8.

MR. STAMETS: These Exhibits will be admitted into evidence.

(Whereupon, TP's Exhibits

1 through 8 were admitted into
evidence.)

MR. RUSSELL: I have nothing further of this
Witness.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Wicke, referring back to Exhibit No. 1,
now, the Application in this Case is for water flood
expansion. If I interpret this Exhibit properly, the
only actual injection incurring at this time is in
Well No. 42 in Unit A of Section 4, is that correct?

A Well, this injection was permitted by our pre-
vious -- by Order No. R-4819, but it has not yet been
converted to injection.

Q I see. With the expansion of an approved
project there?

A Right.

Q Another of the wells that you propose, though,
is Well No. 84 down in Section 23, which is 2-1/2 miles
or so away from Wells No. 47 and 63 which you propose and
probably 3 miles away from the original injection well.
That's kind of a long way to go for an expansion, isn't
it?

A Well, Continental has asked us to cooperate. They are injecting into Well No. 3, which is in --

Q (Interrupting) So, this is an expansion of your -- what is this -- State "A" Account 1?

A Langlie Mattix State "A" flood.

Q But in actuality this Well No. 84 might be a new flood as far as TP is concerned rather than an expansion?

A Right. It is remote from the rest of the flood.

MR. RUSSELL: May I ask a question?

REDIRECT EXAMINATION

BY MR. RUSSELL:

Q Are there plans and discussions underway for the flood of the entire lease?

A Yes. In fact we have underway a unitization proceeding in which we are trying to unitize most of the area, as shown within this plat essentially between the units on the north and the Meyer's Langlie Mattix Unit on the south. Our full-scale water flood would follow a unitization of this area.

MR. RUSSELL: No further questions.

RECROSS EXAMINATION

BY MR. STAMETS:

Q What you are doing now is simply injecting as an offset to protect your leases?

A Right.

Q In each of the injection wells, which are shown on the Exhibits 5, 6, and 7, you propose to load the annular space and guage this, or put some sort of a tension-tracking leak-detection devise on the annular space?

A Right. We would follow all Commission rules in that regard.

Q Your field personnel would be alert to leaks of water on the surface from around injection wells or from around producing wells?

A Yes, sir.

Q And report these to the Commission?

A Yes.

Q You mentioned the Langlie-Jal Unit taking in the entire Seven Rivers formation, and in this case you propose to take in only 160 feet in one case and 135 in another. I would assume in looking at your Exhibit No. 8 that the reason for that is to include only the oil

zone in the Seven Rivers in the Langlie Mattix in this area?

A That's correct.

Q I'm sure that you recognize that this could become an administrative problem for the Commission, dealing with a pool limit that varies radically from place to place and in the County?

A Well, yes, it has that potential.

MR. STAMETS: Any other questions of this Witness? He may be excused. Anything further in this Case?

MR. LYON: Could I make a statement?

MR. STAMETS: Yes.

MR. LYON: I'm V.T. Lyon, Continental Oil Company, and I would like to mention that both of these wells are offsetting units which are operated by Continental Oil Company. In regard to the well in Section 4, the vertical limits involved there -- this is a cooperative well with our South Eunice Unit, in which the unitized area, the unitized interval, includes both the south units and part of the Jalmat. We have requested Texas Pacific to cooperate with us in placing their well on injection in the same intervals that we are

flooding in that unit, and we would respectfully request that the Commission approve their Application.

MR. STAMETS: Does anybody else have anything to offer in the subject cases? If not, they will be taken under advisement.

STATE OF NEW MEXICO)
) SS.
COUNTY OF SANTA FE)

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Richard L. Nye
RICHARD L. NYE, Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5489 heard by me on 5-28, 1975.
Richard L. Nye, Examiner
New Mexico Oil Conservation Commission