

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 22, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of Continental Oil)
Company for a waterflood proj-)
ect, Lea County, New Mexico.)

NO. 4235

BEFORE Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call next Case Number 4235.

MR. HATCH: Case 4235. Application of Continental Oil Company for a waterflood project, Lea County, New Mexico.

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

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 3 were marked for identification.)

VICTOR T. LYON

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Victor T. Lyon.

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

A I'm employed by Continental Oil Company as Conservation Coordinator in the Hobbs Production Division, located in Hobbs, New Mexico.

Q Have you testified before the Oil Conservation Commission and made your qualifications a matter of record?

A Yes, I have.

Q Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

Q (By Mr. Kellahin) Mr. Lyon, are you familiar with the application of Continental Oil Company in Case 4235?

A Yes, sir.

Q What is proposed in this application?

A Case Number 4235 is the application of Continental Oil Company for authority to install and operate a waterflood project on the Jack A-29 lease in the Langlie-Mattix pool, located in Section 29, Township 24, south range 37 east, Lea County, New Mexico.

Q And what formation will be flooded in this waterflood project?

A The formation involved here is the Lower Seven Rivers and the Queen Formation.

Q Now, referring to what has been marked as Applicant's Exhibit Number One, would you identify that exhibit?

A Yes, sir. Exhibit Number One is a location and ownership plat showing the Jack A-29 lease and the proposed injection wells and an area two miles in each direction from the two wells. The Jack A-29 lease consists of the west half of the east half, the southeast quarter of the northeast quarter, and the northeast quarter of the southeast quarter of Section 29.

The southeast quarter of the southeast quarter is referred to as our Jack B lease. This lease is

originally under the same prospecting permit, but is a separate lease by virtue of --

Q It was committed to the Langlie Jack unit; is that correct?

A No, not the southeast of the southeast. The northeast of the northeast is a part of this original lease and it is a part of the Langlie Jack unit, which is shown by the dash line north of the Jack A-29. Now, the area which is outlined in red is the Jack A-29 lease, as I have described it, plus the Jack B-29 lease.

I have discussed this situation with the USGS, and they say that a formal unit will not be necessary, but that they suggest that we enter into an agreement with the overriding royalty owners in these two tracts to, you know, arrive at an agreement as to how the revenue from this is to be distributed. And we will do this well before we expect any response from any of the wells in here.

Q As far as the USGS is concerned, it will be treated as one basic lease; is that correct?

A Yes, sir.

Q So, all you have to do is work out an agreement with your overriding royalty owners?

A That is correct.

Q Now, is this proposed waterflood project offset by

a waterflood?

A Yes, sir. To the east, as shown by a dash line, is the Langlie-Mattix Woolworth unit, which is operated by Amerada Hess. This application -- well, let me go ahead and describe the other waterflood units. To the north is our Langlie Jack unit, which is currently under flood and the injection wells are shown by the triangles inscribed around the wells. And the injection wells in the Langley-Mattix Woolworth are also shown by the triangles inscribed around the wells. To the south, there is now in progress negotiations toward what is to be called the Langley Jal unit, which will include Sections 32 and 31. This unit is to be operated by a Union Texas producing division of Allied Chemicals.

The proposed injection wells in this project, the subject of this hearing, are shown by the red triangles. They are wells Number Two, which is located 2,310 feet from the south line and 330 feet from the east line, and well Number Four, which is located 990 feet from the south line, 1,650 feet from the east line of Section 29.

Q What is the present status of those wells?

A Wells Numbers Two and Four have been shut in for a number of years. Jack A-29, Number One, has also been shut in for a number of years. Well Number Three, which is

located in Unit H, has been plugged back and recompleted as a Jalmat gas well. We are currently evaluating whether we can justify the expense of a dual completion in this well, but in either event, the well will be reopened to the Langlie-Mattix pool as a producer, either as a single producer from that formation, after squeezing the gas, the Jalmat gas, or as a dual completion.

MR. NUTTER: Is the Jalmat gas well the Langlie-Mattix oil well?

A Yes, sir.

Q Now, I might mention that this application is the result of negotiations with Amerada Hess for a lease line agreement between this Jack A-29 area and the Langlie-Mattix Woolworth unit. Under this agreement, Amerada is to drill a well 330 feet from the south line and 330 feet from the west line of Section 28, and will inject into that well and will inject into our Number Two, which offsets their lease.

Q Now, concerning what has been marked as Exhibit Number Two, would you identify that?

A Exhibit Number Two is a schematic diagram showing how the injection well Jack A-29, Number Two, is equipped and will be equipped. As shown, surface casing was set at 369 feet with 175 sacks of cement, which was circulated to the surface, and 7-inch casing was set at 3274 with 900 sacks

of cement. Calculated top of cement is at 2000 feet. The present total depth of the well is 3570. It will be deepened under the agreement with Amerada to 3700 feet and we propose to inject in the open hole interval from 3274 to 3700.

Q Now, that will be, then, injection through tubing and under a packer?

A Yes, sir.

Q Will you use internally coated tubing?

A Yes, sir. The tubing will be cement lined. It will be set on a retrievable packer, set at approximately 3,220 feet.

Q Will the annulus be filled with an inner fluid?

A Yes. We will fill the annulus with treated water and will install a pressure gauge at the surface.

Q Now, what volume of water do you anticipate to inject?

A We anticipate a maximum of 600 barrels of water per day per well.

Q And where will this water come from?

A The water is to be furnished by Amerada Hess from their injection station, and this is the same water which they are currently injecting into their Langlie-Mattix Woolworth waterflood project.

Q Now, referring to Exhibit Number Three, would you

identify that exhibit?

A Exhibit Number Three is a schematic diagram for Jack A-29, Number Four, showing essentially the same information as was shown for Number Two, on Exhibit Two. 10 3/4 inch surface casing was set at 369 and cemented with 250 sacks of cement circulated to the surface. Seven-inch casing was set at 3415 with 900 sacks and calculated cement top was 2000 feet. We propose to inject into the open hole interval 3415, to a total depth of 3589, and this well will also be equipped with cement lined tubing set on a retrievable packer at approximately 3360.

The annulus will be loaded with treated water and a pressure gauge installed at the surface.

Q Now, the pay section from the Jack A-29 is primarily producers from the southern areas; is that correct?

A The Langlie-Mattix pool in this area has a westward dip and it seems that at the boundary on the eastern boundary of Sections 20 and 29. The pool and the formation undergo a change. As a structure goes up to the east, the sections which are productive change and this section line is the approximate location of a change in here, so that the zones under fluid to the east are slightly different from those to the west. Our principal pay in Sections 20 and 29 are the Lower Seven Rivers and the Upper Queen. In

Sections 21, 28, and 33, the primary pay is the Penrose. We have agreed with Amerada that we will deepen our Number Two so that we will inject into the Penrose and they will perforate their well to be drilled down here in the southwest of the southwest of 28, in the Lower Seven Rivers, and the upper Queens, so that each of the wells along that boundary will be injecting into the zone of primary interest to the other part.

Q Now, are there any logs available on these injection wells?

A No, sir. We do not have logs on them, but they will be filed if and when they are run.

Q So, you have not prepared any structure map, then, is that correct?

A No, sir. We did not have real good control on this particular area, and, consequently, did not prepare a structure map.

Q Now, I believe you already testified you are going to recomplete the Jack A-29 Well, Number Three, did you not?

A Yes, sir.

Q How much additional oil do you anticipate will be recovered as a result of this waterflood project?

A Let me refer to something here, (indicating).

A preliminary study based on experience factors in the Langlie-Mattix pool indicates that we should recover an additional 116,400 barrels of oil as a result of the water-flooding, and, of course, there is no remaining primary. The oils are all shut in at this time, and have been for a number of years.

Q And unless you do institute this water flood project, would it result in a waste of oil, in your opinion?

A In my opinion, it would.

Q And if the project is instituted, will it result in the recovery of oil that would not otherwise be recovered?

A Yes, sir.

Q Were exhibits 1, 2, and 3 prepared by you or under your supervision?

A They were.

Q At this time, we offer into evidence exhibits 1, 2, and 3.

MR. NUTTER: Continental Exhibits 1, 2, and 3 will be admitted into evidence.

(Whereupon, Continental's Exhibits 1, 2, and 3 were offered and admitted into evidence.)

MR. KELLAHIN: That's all I have, Mr. Examiner.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Lyon, you mentioned that the Jack B lease and

the southeast, southeast of Section 29 is a different lease from the remainder of the lease in the east half of Section 29; correct?

A Yes, sir.

Q And that the United States Geological Survey had said that a formal unit agreement would not be necessary. Do you have overriding royalty owners under each of the two leases?

A Yes, sir. Under the B lease, there is a total of 2 1/2 percent overriding royalty, and under the A lease, there is a total of 7 1/2 percent. And I have not checked these recently, but I'm quite confident that there are some parties who have overriding royalty in one lease that do not own equivalent royalty in the other.

Q And so, you will make some sort of an arrangement with these overriding royalty interests to allocate the production from the producing well on the Jack B lease?

A Yes, sir.

Q And that the overriding royalty interest owners under the Jack A lease will share in the production from the B?

A Right.

Q And, at the present time, then, you are going to have a waterflood project with two injection wells on the

Jack A, and no producing wells; right?

A That's correct.

Q But later on, you will either complete the Number Three, which is the gas well in Unit H, as a dual completion in the Jalmat gas pool and the Langlie-Mattix oil pool, or as a single completion in the Langlie-Mattix oil pool?

A That is correct.

Q At that time, you will have three wells on the lease?

A Right, and one producer. One producer, two injectors.

Q Correct. Now, at the present time, the Commission cannot consider the Jack B to be a part of the project, but upon receipt of evidence that these overriding royalty interests have been taken care of in some manner that is agreeable to them to share in the production, the Commission could consider that lease to be a part of the project area, too.

A Right. This is fine.

MR. NUTTER: Are there any further questions of Mr. Lyon?

MR. KELLAHIN: I don't think so.

MR. HATCH: I believe not.

MR. NUTTER: If not, he may be excused. Do you have anything further, Mr. Kellahin?

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

MR. NUTTER: Does anyone have anything they wish to offer in Case 4235? We will take the case under advisement and call Case Number 4236.

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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, DAVID BINGHAM, a Court 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.

David Bingham

 COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4235, heard by me on 10/22 1969.
[Signature]
 _____, Examiner
 New Mexico Oil Conservation Commission