STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
25 March 1981

EXAMINER HEARING

IN THE MATTER OF:

Application of Layton Enterprises, Inc., for a unit agreement, Roosevelt County, New Mexico.

CASE 7201

and

Application of Layton Enterprises, Inc., for a waterflood project, Roosevelt County, New Mexico.

CASE 7202

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
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Santa Fe, New Mexico 87501

For the Applicant: George H. Hunker, Jr.
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I N D E X

JOE L. JOHNSON, JR.

E X H I B I T S

MR. NUTTER: Call next Case Number 7201.

MR. PADILLA: Application of Layton Enterprises, Inc., for a unit agreement, Roosevelt County, New Mexico.

MR. HUNKER: Mr. Examiner, I'm George H. Hunker, Junior, Roswell, New Mexico. I represent Layton Enterprises, Inc., in connection with Case Number 7201, which is an application for approval of a unit agreement.

I also represent Layton Enterprises in connection with the waterflood project, which is a necessary adjunct to the unit agreement, and I ask that you permit us to put on our testimony in this matter in a consolidated fashion.

MR. NUTTER: We will now call Case Number 7202.

MR. PADILLA: Application of Layton Enterprises, Inc., for a waterflood project, Roosevelt County, New Mexico.

MR. NUTTER: Do you have any other witnesses, Mr. Hunker?

MR. HUNKER: No.

(Witness sworn.)

JOE L. JOHNSON, JR.

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. HUNKER:

Q. For the record will you give the Examiner your name, address, and occupation?

A. My name is Joe L. Johnson, Junior. I'm a petroleum engineer with Stevens Engineering, Wichita Falls.

Q. Have you prepared engineering studies of the Todd Lower San Andres Field?

A. Yes, sir, I have.

Q. Did you do this on behalf of Layton Enterprises, Inc.?

A. Yes, I have.

Q. How long have you been working on this project, Mr. Johnson?

A. Total time about eight years.

Q. Are you familiar with the applications that have been filed in these cases by Layton for approval of unitization and for approval of the waterflood project?

A. Yes, I am.

Q. Have you previously testified before the Commission and had your qualifications made a matter of record and found to be acceptable?

A. Yes, they are.

MR. HUNKER: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

Q. You've prepared certain exhibits. I'd like for you to turn first to Exhibit Number One and tell the Examiner what that exhibit is.

A. Exhibit Number One is a map indicating the area covered and contained within the proposed Todd Lower San Andres Unit.

Q. How many acres are involved in this unit?

A. 3,255.

Q. And what part of the acreage is Federal?

A. Approximately 34 percent.

Q. What part is State?

A. 65, 66 percent.

Q. Does the area that you have depicted on this exhibit include all of the wells that are producable from the Todd Lower San Andres formation?

A. Yes, they do.

Q. Looking further to the exhibit that's

been marked Number Two, will you tell the Examiner what that exhibit is?

A. Exhibit Two is a unit agreement of the proposed Todd Lower San Andres Unit.

Q. Turn to page two of that agreement and explain the formation that is to be unitized.

A. The unitized formation is described under (h) of Section 2, and it is -- reads as follows: Commonly known as the Lower San Andres formation and which is the same formation that was encountered between the logged depths of 4235 feet subsea elevation minus 84 foot and 4286 foot subsea elevation minus 135 in the Franklin Astin FAir, Incorporated, Bough State Well No. 1.

Q. Turn to page seven of the unit agreement and describe the tract participation formula.

A. Tract participation formula consists of four parts. A 70 percent weight is given to ultimate primary as a percentage of the primary in the entire field; 10 percent weight is given to the cumulative primary produced by each tract as of January 1, 1979, as to the summation of the cumulative primary of the -- all tracts; 10 percent weight is given to the ratio of barrels of remaining oil for each tract as of January 1, 1979, to the summation; and 10 percent is given to the ratio of current production rate from each

tract during the calendar year 1978 to the summation of the production rate from all tracts during the calendar year of '78.

Q. Why was a single stage formula used in connection with this unit?

A. It was felt that it was -- would be -- since the primary was virtually gone from this property, there's very little remaining primary, that it would be a fair method in which to handle the investment, et cetera.

Q. What is the status of the producing wells in the field at the present time?

A. At the present time the field is producing approximately 100 barrels to 120 barrels a day, or about two to three barrels of oil per well.

Q. They're stripper wells, in other words?

A. Yes, sir.

Q. And it's in the final stages of depletion as far as the primary is concerned, is that correct?

A. That is correct.

Q. In your opinion, Mr. Johnson, will the formula protect the correlative rights of royalty owners as well as the working interest owners?

A. Yes, it will.

Q. If the agreement is approved, is it your

opinion that such approval will be in the interest of conservation and the protection of -- and the prevention of waste?

A. Yes, sir, it will.

Q. In connection with Case Number 7202, the waterflood case, explain what Layton expects to accomplish by the waterflood project.

A. We anticipate initially starting with a pilot project utilizing four injection wells and then based on the performance of these four wells expanding the project in approximately one to two years.

Anticipated recovery in the way of secondary recovery would be in the vicinity of 1-1/2 to 2 million barrels of oil.

Q. Referring to Exhibit Number Three, will you explain what that exhibit shows?

A. Exhibit Three indicates the wells that we anticipate using as injection wells to start with.

Q. And how are they identified?

A. They're identified with a triangle around each of the wells.

Q. And the circled wells, does that mean anything?

A. No, sir.

Q. Turning to Exhibit Four, which is in four

parts, Four A, B, C, and D, will you tell the Examiner what those refer to or demonstrate?

A. These are diagrammatic sketches of wells that have been plugged and abandoned in the general vicinity of a half mile of each injection well.

Q. Where did you obtain the information for these exhibits?

A. We obtained it from the State files.

Q. Now, referring to --

MR. NUTTER: Well, before you get off those, Mr. Johnson, on these exhibits I don't see any identification of the location of them. Would you point out the location so I could get them in the record?

MR. HUNKER: It will be shown, if the Examiner please, on the tabular summary which, I think, is the next exhibit.

MR. NUTTER: Okay.

Q. Is that correct, Mr. --

A. Yes.

MR. NUTTER: Okay, go ahead.

Q. Referring to Exhibit Number Five, Mr. Johnson, will you tell the Examiner what that exhibit shows?

A. Exhibit Five is a tabular summary of all wells within 1/2 mile of the injection wells.

Q. Are the four plugged and abandoned wells shown in that exhibit also?

A. Yes, sir.

Q. Are they marked with an asterisk?

A. Yes, sir.

Q. And is the location of those wells shown on the exhibit?

A. Yes, sir, that's the first column.

Q. Now what does this tabular summary show, Mr. Johnson?

A. The tabular summary indicates the location of the wells, the surface casing used, the amount, as well as the amount of cement used, the top of the cement. It also indicates production casing that was run, the size of that casing, the depth at which it was set, cement used on that cementing job, the top of the cement, total depth of the well, the producing interval, and any data concerning plugged and abandoned wells, such as plugs, sacks of cement, depth.

Q. All right. Where did you obtain that information?

A. Also from the State files.

Q. That's your Exhibit Number Five, is that correct?

A. That is correct.

Q. Referring to Exhibit Number Six, which is in four parts, A, B, C, and D, will you explain to the Examiner what that exhibit shows?

A. These are diagrammatic sketches of the planned injection wells for the project and the planned method in which these wells will be completed, for injection purposes.

Q. Are these typical of waterflood projects, Mr. Johnson?

A. Yes, they are.

Q. Are they self-explanatory?

A. Yes, sir.

Q. And they also indicate the precise location of the four wells that are going to be used for injection purposes in the pilot flood, is that correct?

A. Yes, sir, they do identify that.

Q. In your opinion will the approval of the waterflood project be in the interest of conservation and the prevention of waste?

A. Yes, sir, it will.

Q. Will correlative rights be protected?

A. Yes, sir.

Q. Have you anything further that you'd like to add to your testimony?

A. No, sir.

MR. HUNKER: I'd like to offer at this time Exhibits One through Six on behalf of the applicant.

MR. NUTTER: Exhibits One through Six will be entered into the record of Cases 7201 and 7202.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Now, Mr. Johnson, on your Exhibit Number Five you show the surface pipe that has been run in each of these wells in the area and it looks like it probably averages anywhere to 272 feet to 363 feet, somewhere in that neighborhood.

What is the depth of the fresh water in the area, do you know?

A. No, sir, I'm not positive of that. There is very little fresh water in this general vicinity but I would assume it would be more in the vicinity of 200 or less.

Q. Yeah, well, I would imagine so, just looking at the surface pipe.

A. Uh-huh.

Q. It's probably set below the surface water, but you don't know exactly?

A. No, sir, I don't. There are a few -- few windmills out there but I don't know how deep they are.

Q. Now, cement has been circulated to the surface on each one of these surface strings, is that correct?

A. That is correct.

Q. And then for the four wells within a half mile of the injection wells, which has been plugged, you show the location of those plugs on your Exhibit Four A through Four D, and you've also indicated on Exhibit Five the location of those plugs, is that correct?

A. That is correct.

MR. HUNKER: I have one or two other questions.

MR. NUTTER: Okay, Mr. Hunker.

REDIRECT EXAMINATION

BY MR. HUNKER:

Q. Have you made recommendations to the operator regarding pressures and the volume of fluid to be injected?

A. Yes, sir, we have.

Q. What do you recommend at this particular time?

A. We're anticipating approximately 200 barrels a day per injection well as an initial point of starting; a maximum pressure in the vicinity of 800 to 900

pounds.

Q. Will care be taken by the operator to insure that the water enters only the proposed injection interval and not permit it to escape?

A. Yes, sir.

Q. Are you requesting on behalf of operator that administrative procedures be adopted whereby the operator can obtain approval administratively for additional producing and injection wells at both orthodox and unorthodox locations?

A. Yes, sir.

MR. HUNKER: I have nothing further, Mr. Nutter.

RECROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Johnson, your proposed injection pressure would be between 800 and 900 pounds. Now the Division's rule of thumb for limiting of injection pressures in the absence of information to the contrary would be 0.2 of a pound per foot of depth to the uppermost perforation.

On Exhibit Six C, is -- I can't tell exactly what that upper perforation is. Is that 4080 or 4282 or just what is that?

A. That's 4282.

Q. Okay, the most shallow of the injection zones, then, would be on Exhibit Six A, which is 4240.

A. Yes, sir.

Q. And that rule of thumb that I mentioned would be 0.2 of a pound, or 848 pounds --

A. That's correct.

Q. --per square inch. Is that a suitable maximum for your present plans?

A. We think it would be, yes, sir.

Q. Okay. Now, I see these injection wells are equipped with tubing and packer and the annulus, I presume, would be loaded with an inhibitive fluid?

A. Yes, sir.

Q. And equipped with pressure gauge or other device at the surface to indicate whether there's a leak in tubing, packer, or casing?

A. That is correct.

Q. Now, looking at the unit boundary as depicted on Exhibit One, and looking at the plat showing the location of the wells on Exhibit Number Three, I don't see the unit boundary on here, but the unit boundary is spread out in such a manner that all of these producing wells shown on Exhibit Three are included in the unit area?

A. Yes, sir, you need to take note now to

the northwest there are several gas wells, you'll notice, which are producing from a different interval of the San Andres. They are not included in the unit. Only the oil producing wells are the ones that are brought into the unit area.

Q. Okay. Now how about the -- there are some oil wells, or there is an oil well in the southwest of the northwest of Section 26. Is that producing from another pool?

A. 26, yes, sir. I believe that well is plugged now.

Q. Is it?

A. I believe so.

Q. Just bear with me a minute, I'm going to draw the unit outline on this plat.

MR. HUNKER: I'll be glad to furnish you one. I just didn't have time.

MR. NUTTER: Oh, this will be all right. You've got one non-contiguous 40 going up there in Section 20 to take in that old well, I see.

A. Yes, sir.

Q. I notice you do have some gas wells in the north half of Section 31 included in the unit area, and also -- Section 35, I beg your pardon, and also a gas well that's in the northeast of the southeast of Section 35. Is

that -- is that a unit well?

A. Yes, sir, those are shown as gas wells but they are now oil wells.

Q. I see.

MR. NUTTER: Are there any further questions of Mr. Johnson? He may be -- oh, Mr. Padilla.

CROSS EXAMINATION

BY MR. PADILLA:

Q. Mr. Johnson, I believe you -- I'm not sure whether you testified to this or not, but did you get preliminary approval from the Land Commissioner and the USGS for your unit agreement?

MR. HUNKER: I'll answer that. We have not from the Commissioner of Public Lands but we have from the USGS.

MR. PADILLA: I have nothing further.

MR. NUTTER: How about the working interest commitment to the unit, Mr. Hunker?

MR. HUNKER: We've had -- well, I think that Mr. Johnson can testify to that.

MR. NUTTER: I notice from Exhibit Number One that most of the leases in here are labeled as being Layton Enterprises leases. You have a few other com-

panies.

A. I don't have a recent percentage but in a series of meetings that we've had there at this point appears to be no objection from any of the operators at this time, but as to the amount that have signed and sent their unit agreement in, I just don't know.

MR. NUTTER: Obviously the Layton leases are committed to the unit.

A. Yes, they are.

MR. NUTTER: And we do have correspondence here from a couple of companies.

A. I see.

MR. NUTTER: How about Texaco? Do you know the status of negotiations with Texaco?

A. Texaco has been for it all the way.

MR. LAMAR: Mr. Examiner.

MR. NUTTER: Yes, sir, state your name for the record, please.

MR. LAMAR: I am J. R. Lamar and I am employed by the Amoco Production Company in Houston, Texas.

On behalf of Amoco, and as Amoco is a working interest owner in this field, Amoco has been involved in negotiations here and we approve the plan and we recommend that you approve the unit.

MR. NUTTER: Thanka, Mr. Lamar. So we've heard from Amoco. Will you read our correspondence, Mr. Padilla?

MR. PADILLA: Mr. Examiner, Sun Oil Company and Getty Oil Company both have filed a concurrence of this -- for this unit agreement.

MR. NUTTER: Mr. Johnson or Mr. Hunker, do you know the status of the Gulf negotiations?

A. Again, in the meetings we have had no indication of any objection from Gulf.

MR. NUTTER: And Monument Energy?

A. The same.

MR. NUTTER: So you think you will have 100 percent?

A. Looks like we'll have 100 percent. We've fought for eight years to get it, but we'll get it.

MR. NUTTER: Okay, are there any further questions of Mr. Johnson? He may be excused.

Do you have anything further, Mr. Hunker?

MR. HUNKER: Nothing further.

MR. NUTTER: Does anyone have anything they wish to offer in Case 7201 or 7202?

We'll take the cases under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7201 & 7202 heard by me on 3/25 1981.

, Examiner
Oil Conservation Division

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