



APPEARANCES (Continued)

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MR. NUTTER: Case 5415.

MR. CARR: Case 5415. Continued from the March 19, 1975 Examiner Hearing. Application of Burk Royalty Company, for a unit agreement, Chaves County, New Mexico.

MR. CHRISTY: Sim Christy, Jennings, Christy and Copple for the Applicant, Burk Royalty Company.

May I suggest to the Examiner that it might be expeditious to combine this case with Case 5454 which is the next case on the docket and has to do with an application for a waterflood in the same unit area.

MR. NUTTER: We will call now Case No. 5454.

MR. CARR: Case 5454, Application of Burk Royalty Company for a waterflood project, Chaves County, New Mexico.

MR. NUTTER: Cases 5415 and 5454 will be consolidated for the purpose of hearing.

MR. CHRISTY: We have two witnesses, Mr. Examiner.

(Witnesses sworn.)

JOHN H. BEAR

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

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, by whom you are

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employed and in what capacity?

A Jon H. Bear, Wichita Falls, Texas, Petroleum Engineer and Vice President for the Company.

Q Mr. Bear, are you familiar with the proposed Double L Queen Unit Agreement?

A Yes, I am.

Q Let me refer you to what has been marked as Exhibit 1, which purports to be a copy of the Unit Agreement, and I will ask you if you will briefly summarize for us the unit provisions. I believe there are 2670.10 acres of land involved in Townships 14 and 15 South, Range 29 and 30 East, Chaves County, New Mexico, is that correct?

A That is correct.

Q And it is proposed to waterflood the Queen formation underlying those lands?

A That's right.

Q I believe your Exhibit B to the Unit Agreement reflects that there are 14 tracts of Federal land for 1231.44 acres or 46.12 percent of the unit. There are 8 State of New Mexico tracts for 1120.02 acres or 41.95 percent of the unit area and there are two private owned or B Tracts totaling 318.64 acres or 11.93 percent of the unit area, is that correct?

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A That is correct.

Q How is the allocation of productions in the Unit Agreement made?

A Do you mean the participation formula?

Q Yes.

A The participation formula is a two-phase formula. The first phase is based on 50-percent remaining primary reserves after December 1st, 1972 and 50-percent period income from June 1st, 1972 through December, 1972.

The second phase is based 50-percent on acre-feet and 50-percent on total ultimate primary expected production.

Q This is based upon a formula shown in Section 13, Pages 9 and 10 of the Unit Agreement, is that correct?

A That is correct.

Q And recapped in Exhibit C by tract?

A Yes.

Q Have you obtained preliminary approval of the Unit Agreement by Federal and State authorities?

A Yes, sir, we have.

Q I believe your Federal approval was obtained on October 4, 1974 and your State approval was obtained January 15, 1975, is that correct?

A Yes, sir.

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Q Do you have indications as to jointers in any percentages? Have you passed this Unit Agreement out to other operators and have them check it?

A Yes. We have approximately 96.7 working interests owner approval.

Q That is 96.7-percent?

A Percent.

Q Is this Unit Agreement similar to prior waterflood agreements in southeast New Mexico that have been approved by this Commission?

A Yes, it is.

Q I believe you have a pending unit-operating agreement that has been prepared?

A Right.

Q And that is Exhibit 2?

A Yes.

Q Do you have logs and core analyses?

A Yes, we do.

Q I think I incorrectly said that the unit operating agreement was Exhibit 2. It is Exhibit 3 and the logs are Exhibit 2, is that correct?

A Yes.

Q There was attached to the Application certain

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schematic diagrams. You are familiar with that?

A Yes, I am.

Q Have you prepared other copies of those which is Exhibit 4?

A Correct.

Q Now, also in the Exhibit with the Application, I believe you attached a map showing the outline of the unit and the various working interest owners within two miles, is that correct?

A That's correct.

Q Is that your Exhibit 5 for this hearing?

A Yes, that's correct.

Q Also, have you prepared another unit outline showing the injection wells in the proposed unit?

A Yes.

Q Is that your Exhibit 6?

A Correct.

Q Let's look at Exhibit 6 here a second to clarify the record. What are the red circled wells?

A Those are the proposed water-injection wells.

Q Where do you propose to start your injection on your pilot project, referring to Exhibit 6, please?

A Actually, when we secure permission and start the

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flood, we propose to start the whole flood. In other words, we will convert all of the wells indicated here at one time when we start water injection in all of the water injection wells. There will really not be a "pilot flood."

Q Pilot the whole unit?

A The pilot would be the whole unit.

Q What kind of water is this? You are injecting water, aren't you?

A Yes.

Q You propose to inject water?

A Yes.

Q What kind of water is it?

A We hope that it will be fresh water secured from the Double Eagle Corporation.

Q Do they have water in this area?

A They do have a line and are serving other water-floods in the immediate area.

Q Have you made any contacts or have any estimates as to whether or not you will be able to obtain the water?

A We have made numerous contacts. We have made one within the past 30 days and they indicate that they will still be able to purchase water.

Q Approximately how much water will you be using on

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a daily basis?

A A little over 5000 barrels a day.

Q I think the Application refers to 350 barrels per well per day or a total of 5600 barrels per day initially, is that correct?

A Yes.

Q And then the amount of water, I assume, by re-injecting it, you would decrease the amount of water that you need to use?

A Yes. We will reinject the produced water as it becomes available.

Q You were one of the prime movers in the preparation of the Unit Operating Agreement, were you not?

A Yes, I was.

Q Did you design the unit so as to maximize recovery of the hydrocarbons underlying the unit area and to burn that place? *generally*

A Yes, we did.

Q Do you know of any reason that the correlative rights of any interested party might be violated by the approval of the unit and the allowance of the pilot water-flood project?

A No, I don't.

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MR. CHRISTY: That's all.

MR. NUTTER: Are there any questions of this witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Bear, you mentioned that you had 96.7-percent of the working interest committed to the unit. Returning to your Exhibit B in the Unit Agreement, would you identify the tracts that have not been committed, if any tracts in toto have not been?

A I might explain that we have not submitted this to the working-interest owners for final signature or final whatever it is called. We have requested from all the working-interest owners preliminary agreement to the unit. The ones that we do not have a letter back from are Tract 20, Tract 22, Tract 4 and Tract 11.

Q Tract 20 is a 40-acre tract, is that correct?

A Yes, sir.

Q Tract 22 is a 40.01-acre tract?

A Yes, sir.

Q Tract 4 is a 40-acre tract?

A 40 acres, yes, sir.

Q And Tract 11 is an 80-acre tract?

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A Yes, sir.

Q So, you've got something like 200 acres of the total that have not been committed?

A Yes, sir.

Q But you haven't received replies on it, I should say?

A Yes, sir. Now, if we are doing it on an acreage basis, it is going to be different because the basis on which I use the 96.7 is the participation formula and not the acreage basis.

Q I see. So, 96.7 percent of the participation factors have indicated that they would join?

A Yes, sir.

MR. CHRISTY: In acreage it is about 200 acres out of the 2670 acres uncommitted.

MR. NUTTER: Right.

BY MR. NUTTER:

Q Now, Mr. Bear, in going through the participation formula, I think that you said that under Phase 1, it would be 50-percent A and 50-percent B?

A Yes, sir.

Q And I think you said under Phase 2, it would be 50-percent and 50-percent?

A Yes, sir, but of different criteria.

Q Well, doesn't the Unit Agreement on Page 10 provide 55-percent of Factor C and 45-percent of Factor D?

A Okay, if that is what it says, that is what it is. We have changed it so many times, I have lost track.

Q So, under Phase 1, it is 50-50 and under Phase 2, it is 55-45?

A Okay.

Q Now, there are only two basic royalty owners in the unit, correct?

A No, there are three. There is the State of New Mexico, the Federal Government and there are two tracts that are fee land.

Q Two fee tracts. Have the fee royalty owners agreed to the Unit Agreement?

A No, sir, we have not as yet contacted them.

MR. NUTTER: Are there any further questions of Mr. Bear? You may be excused.

(Witness dismissed)

LEON LAMPERT

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

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Will you please state your name, your address, by whom you are employed and in what capacity?

A Leon Lampert, Geologist, Dalport Oil Corporation, Corpus Christi.

Q You have previously testified before this regulatory body and had your qualifications as a Petroleum Geologist accepted, have you not?

A Yes.

Q Let me hand you what has been marked as Burk's Exhibit 7, and I will ask you if that is a geological-engineering report on the proposed Double L Queen Unit?

A That's right.

Q Briefly, tell us a little about the geology in this area?

A This is a stratographic. It is a large stratographic trap in the Queen Sand which is Guadalupian in age in the Permian. The sand porosity pinches out on the west side of the gas cap. There is a gas cap on the west side of the oil rim. The gas-oil contact is at approximately plus 1937 on the Sub-C datum basis and downdip from the oil rim there is a tilted-water contact that is plus 1915 on the south end of the field and plus 1895 on the northeast end of the field. This is not a water-drive

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field. It is -- the drive mechanism is based on expansion of the gas cap and solution gas drive, but the sand is encountered from about 1900 to 2000 feet below the level of the ground and there is normally 10 feet of productive interval and that varies considerably. The productive is a gray sand. It can have high porosity, high permeability. We have seen up to 2000 millidarcy in some wells, but the average perm is 121 millidarcy. The average porosity is 20 -- well, it is in the report--but basically, you have a gray sand that is productive and you have red sands that are interpolated within the gray-sand interval and the red sand is not productive.

It is the same type of geology that occurs in the Sulimar Queen Field which is in south which is being flooded today and has been flooded for 2 or 2½ years. It is the same type of structure. It is a stratigraphic terrace. It is not a structure. The contours depict a 40 to 60 degree -- 40 to 60 foot per mile dip to the southeast.

Q Geologically speaking, does this appear to be a unit area susceptible to waterflood unitization?

A Yes, sir.

Q Will that maximize recovery of hydrocarbons?

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A It sure would.

Q The waterflood idea?

A It sure would.

Q What kind of drive is this? You said it is not a water drive.

A It is a solution-gas expansion and the possibility of the expansion of the gas cap. There might be a slight water drive, but I don't think so. At least we haven't encountered any kind of water pressure.

Q Is there anything else that I haven't asked you that you think might be of interest to the Examiner in connection with the Application?

A I don't think so.

MR. CHRISTY: That's all.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Lampert, what has been the primary recovery in this unit area to date?

A Total?

Q Yes, sir.

A Cumulative, 1.4 -- it was 1.1 and a fraction million barrels. It is probably 1.3 million approximately now. That is an approximation.

MR. NUTTER: Are you going to furnish that report as a part of the record?

MR. CHRISTY: Yes, sir, Exhibit 7. Unfortunately, I only have one copy. I think there is one attached to the Application. It would have been a Red-i-back.

(Whereupon, a discussion was held off the record.)

BY MR. NUTTER:

Q According to that geological report, Mr. Lampert, what was the cumulative production at the time that report was made?

A It was 1,123,912 barrels as of 12/1/72.

Q At the time that report was made, was there a prognostication as to what secondary recovery would yield in there?

A Yes.

Q What was that equal to?

A In total barrels?

Q Yes.

A It was 1.8 million barrels.

Q So, you anticipate that your secondary recovery would be somewhat in excess of the primary?

A Yes, sir. 1.14 times ultimate primary -- 1.12 to 1.14.

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Q Now, in the unit area as you have outlined, is any of the gas cap as we know the gas cap to exist, included in the area?

A No, sir. We have tried not to include any of the gas cap. There might be a slight portion of the contour included, but a very very little amount because you can't cut the unit across some of the contours.

Q You are familiar with the pool rules for the Double L Queen Pool, are you not?

A Yes, sir.

Q And those pool rules provide for classification of a well as a gas well if the GOR is 30,000 or more. Are any of the wells that are included in the unit boundary, as you have defined it here on Exhibit No. 5, classified as gas wells under those pool rules?

A I don't know. I would have to double-check that matter, Mr. Nutter. I would have to double-check that.

Q Do you have that information there or would you have to check that after you returned to your office?

A I think I would have to check that after I returned to my office. I know as far as the Dalport Wells, they would not be included, but I would have to check on one of the others.

MR. CHRISTY: We will furnish that information to you.

MR. NUTTER: If you would, please.

Are there any further questions of Mr. Lampert? He may be excused.

(Witness dismissed)

MR. CHRISTY: I offer into evidence Applicant's Exhibits 1 through 7, inclusive.

MR. NUTTER: Applicant's Exhibits 1 through 7 in Cases 5415 and 5454 consolidated will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 7 were marked for identification, and were offered and admitted into evidence.)

MR. CHRISTY: We have nothing further, Mr. Examiner.

MR. NUTTER: Does anyone have anything they wish to offer in this case?

MR. LINES: Yes. I am Farrell Lines. I am making entry for Michael Grace. I am sorry I wasn't here earlier.

We would ask at this time that Section 1 be excluded from this proposal. We have a statement of one well there. I would ask the Commission to be able to

furnish it at a later time with the permission of the Commission. I am applying to the Commission that one is classified as a gas well. We also have plans for the State No. 2 well that is just to the left of that and he was going to inject through No. 2 to get some more gas from No. 1. He feels that this is in the gas cap and that it shouldn't be included in the other oil areas and we would ask permission to be able to furnish this information to the Commission before they make their finding.

MR. NUTTER: Which section was that?

MR. LINES: This is Section 1.

MR. CHRISTY: That is the northeast northeast of No. 1?

MR. LINES: Yes.

MR. CHRISTY: I will state to the Examiner, to the best of my knowledge on that point. We initially included the northeast northeast of No. 1 in the unit area without preliminary approval from the U.S.G.S. We sent it to the State and they declined to approve it because the northeast northeast of 1 was in it. They said they would not approve it with that, so we took it out and gave it back to the U.S.G.S. and the U.S.G.S. said, "No, leave it in the unit area, but you don't have to commit it." to,

that is the position we are in. We have absolutely no objection to the northeast northeast being not committed. It needs to be a part of the unit area as far as unitary designation is concerned, but my information is that the Commissioner will not approve that tract in the unit.

MR. NUTTER: And it is a 40-acre tract.

MR. CHRISTY: 40-acre tract.

MR. NUTTER: You are not proposing a water-injection well on that 40-acre tract?

MR. CHRISTY: I defer to the exhibit, but I don't think so. The answer is, no. As depicted in Exhibit 6, it is not.

MR. NUTTER: Does anyone else have anything they wish to offer in Cases 5415 and 5454?

We will take the cases 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.

COURT REPORTER

*[Handwritten signature]*  
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