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McCLURG-DIRECT

MR. NUTTER: Case 5332.

MR. DERRYBERRY: Case 5332. Application of C and K Petroleum, Inc. for a unit agreement, Eddy County, New Mexico.

MR. RICHARDSON: I am Ralph M. Richardson, Roswell, New Mexico, appearing on behalf of the Applicant. We have one witness.

(Witness sworn.)

DONALD L. McCLURG

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

DIRECT EXAMINATION

BY MR. RICHARDSON:

Q Mr. McClurg, will you please state your name and present occupation?

A Donald L. McClurg, Consulting Geologist for C and K Petroleum.

Q Would you please state your educational and professional background to enable you to testify as an expert witness in this case?

A I graduated in 1960 from the University of Texas in El Paso with a Bachelor's degree in geology. I worked about 6½ years for Amoco Production Company, and one year

for Great Western Drilling Company, and have been consulting for the last two years.

Q Are you familiar with the West Airport Unit Area and the matters contained in the Application for the Commission's approval for a unit agreement?

A Yes, I am.

MR. RICHARDSON: Are his qualifications acceptable?

MR. NUTTER: Yes, they are.

BY MR. RICHARDSON:

Q Is the form of unit agreement that prescribed by Federal Regulations?

A Yes, it is.

Q Has a unit area been designated by the United States Geological Survey as an area logically suitable for development under a unit plan of operation?

A Yes, it has.

Q Would you please tell the Commission the total number of acres within the unit area and the number and percentage of Federal and fee lands?

A The total unit area comprises approximately 3840 acres, or 6 sections. Federal is approximately 63.54 percent. Fee lands are 16.3 percent, and State lands are 20.83 percent.

Q Would you please tell the Commission the Township and Range in which the unit is located and the approximate location with reference to the nearest town?

A It is Township 22 South, Range 26 East, about three miles southwest of Carlsbad.

Q Would you please refer to the Geological Report which has been handed to the Commissioner marked Exhibits 1 through 4. Was this report written by you or prepared by you?

A The report was written by Harold Gardner, who is another consultant geologist that worked for C and K. I was involved, assisting with Mr. Gardner in the preparation of the report.

Q It was a joint combination, in other words?

A Yes.

Q Would you review the report briefly referring to the maps and names and indicating the significance of the maps?

A The report is comprised of a written portion which is Exhibit 4, and a map portion which is a structure map on the Middle Morrow Unit which is defined as Exhibit No. 1. And the Middle Morrow Unit is representative of the general lay of the structure.

MR. NUTTER: Just a moment. This particular book here has two index plats, but it doesn't seem to have the Morrow structure plat.

THE WITNESS: I believe it is in the enclosure on the back side there.

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

THE WITNESS: This structure map is Exhibit 1 and illustrates -- there appear to be a string of non-productive wells in the Morrow formation on the west side of the South Carlsbad Field. We feel that this represents a permeability barrier on the west side of the South Carlsbad Field. And then to the west of that is the West Airport Unit, and then we encounter west of the unit, as shown in blue on the maps, another permeability barrier which we think exists which would be updip of the unit area. The cross sections illustrate the reasons that we think that permeability barriers exist in the area primarily because the main pay in the South Carlsbad Field is not productive in the permeability barrier immediately to the west of South Carlsbad, and it has produced gas in Section 34, 22, 26 and the well is designated Midwest Federal 1-L on this map. The well was eventually completed in the

upper portion of the Morrow for 4.5 million, but the main pay in the South Carlsbad Field was tested up to 3 million. The well experienced extreme mechanical difficulty when it was over a year completing, but gas was present in the main pay of the South Carlsbad Field which would be an area of the West Airport Unit. And updip and past the next permeability barrier, all of the sands that we think are equivalent to the pay in the South Carlsbad Field are either tight, wet or shaley, so there must be another separation of these units updip of the area we intend to drill. So, basically, what we have is the rig report which describes in greater detail the plat which shows the expected structure of the proposed location and two cross sections which support the existence of the permeability barrier inferred on the map.

BY MR. RICHARDSON:

Q Will you please tell the Commission your conclusions as to the formations likely to be encountered and considered prospective for production?

A Well, the uppermost formation likely to be productive in the area is the Wolfcamp which does produce in the general area to the east of the West Airport Unit in the Gulf Olive Well and the Pennzoil Moore Well. It

is colored orange on the plat. The Wolfcamp is a very erratic reservoir, but it is always a possibility in this general area here. Then, the Canyon produces in several wells in the area, once again, very similar to the Wolfcamp, a very erratic reservoir, but it is a potential productive zone. The primary target would, of course, be the Lower Morrow Sand. That is the main pay. The Morrow Sand is the primary target which we are after.

Q Would you please give the projected depth and the location of the initial test well?

A Okay. The proposed depth is 12,000 feet which should TD in the Barnett Shale which would assure an adequate penetration of all Morrow Sands. And the proposed location is 2250 from the north line, 990 from the west line of Section 29, 22 South, 26 East in Eddy County, and that location is at a slight variance with the plats in the report.

Q Is that 990 from the west line or the east line?

A 990 -- I am sorry -- from the east line of Section 29.

Q Have the other working interest owners of the unit been contacted?

A Yes, they have.

Q In your opinion, what percentage of the working interest will be committed and what percentage of the royalty will be committed?

A About 90 percent of the working interest owners and assuming State approval, 85 percent of the royalty.

Q In your opinion, will the operation of this area under the proposed unit plan of operation be in the interest of conservation and prevention of waste?

A Yes.

Q And will the correlative rights of all parties to the unit agreement be protected?

A Yes.

MR. RICHARDSON: We would like to enter the Geological Report, marked Exhibits 1 through 4 into evidence at this time.

MR. NUTTER: The Geological Reports with the enclosed exhibits will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1, 2, 3 and 4 were marked for identification, and were admitted into evidence.)

MR. RICHARDSON: I have nothing further.

CROSS EXAMINATION

BY MR. NUTTER:

Q What was the location of that well again?

A The location is 2250 from the north line and 990 from the east line of Section 29. That map may have an old--

Q (Interrupting) The location that is marked on this exhibit wouldn't correspond.

A Yes, it would not. I could give you my copy here which has the corrected location.

Q I can just draw the location on it if I can find out --

A (Interrupting) Here, let me have that.

Q It is in Section 28?

A No, sir, 29.

Q Oh, Section 29.

A That was the preliminary location and the management decided to move it slightly updip.

Q So, then, this location, I believe, would be a standard location?

A Yes, sir. It is at a slight variance from the 660 and 1980, but it is -- because of the topography.

Q But it will still be standard?

A Yes, sir, I think it would still be a standard location.

Q We can mark this one, then, Exhibit 1-A, which

is the corrected well location plat?

A Yes, sir.

MR. NUTTER: And it will be admitted in evidence too.

(Whereupon, Applicant's Exhibit No. 1-A was marked for identification, and was admitted into evidence.)

MR. NUTTER: Are there any questions of Mr. McClurg? He may be excused.

(Witness dismissed.)

MR. NUTTER: Do you have anything further, Mr. Richardson?

MR. RICHARDSON: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 5332? We will take the case under advisement.

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A Yes, sir, I think it would still be a standard location.

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is the corrected well location plat?

A Yes, sir.

MR. NUTTER: And it will be admitted in evidence too.

(Whereupon, Applicant's Exhibit No. 1-A was marked for identification, and was admitted into evidence.)

MR. NUTTER: Are there any questions of Mr. McClurg? He may be excused.

(Witness dismissed.)

MR. NUTTER: Do you have anything further, Mr. Richardson?

MR. RICHARDSON: No, sir.

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