

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
August 5, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of King Resources Company  
for a unit agreement, Otero County,  
New Mexico.

Case No. 4385

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4385.

MR. HATCH: Case 4385, (Continued from the July 15, 1970 Examiner Hearing). Application of King Resources Company for a unit agreement, Otero County, New Mexico.

MR. HINKLE: Mr. Examiner, I am Clarence E. Hinkle of Hinkle, Bondurant, Cox & Eaton, Roswell, New Mexico appearing on behalf of King Resources. We have one witness and seven exhibits, I believe.

MR. UTZ: Will the witness stand and be sworn, please and will you mark the exhibits, please?

(Whereupon, Applicant's Exhibits 1 through 7 were marked for identification.)

(Witness sworn.)

RICHARD STUMP

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q Will you state your name, your residence and by whom you are employed?

A My name is Richard Stump. I live at 2309 Gulf, Midland, Texas. I am employed by King Resources Company.

MR. UTZ: How do you spell your name?

A S-t-u-m-p.

Q (By Mr. Hinkle) Have you previously testified before the New Mexico Oil Conservation Commission?

A No, I haven't.

Q Are you a petroleum geologist?

A Yes.

Q State briefly your educational background and experience as a geologist.

A I have a Master of Science Degree, major in geology from Iowa State University and I have practiced as a petroleum geologist for fourteen years, thirteen years with Standard Oil Company of Texas and one year with King Resources Company.

Q Have you had any experience in geology in New Mexico?

A Yes, I have.

Q Have you made a study of the Brokeoff Mountain area?

A Yes, I have.

Q What does that study consist of?

A It consists of several surface geological studies, one from air photographs, one from a published source as well as magnetometer studies that King Resources has run in the area.

MR. HINKLE: Are the qualifications of the witness acceptable?

MR. UTZ: Yes, they are.

Q (By Mr. Hinkle) Are you familiar with the application of King Resources in this case?

A Yes, I am.

Q What is King Resources seeking to accomplish by this application?

A They are asking for approval of a unit consisting of approximately 37,700 acres in southeast Otero County with parts of Townships 24, 25 and 26 South, Ranges 19 and 20 East.

Q Have you prepared or has there been prepared under your direction certain exhibits for introduction in this case?

A Yes, there have been.

Q Refer to your Exhibit Number 1 and explain what this is and what it shows?

A Exhibit Number 1 is a land plat showing the outline of the proposed unit and the leases and the ownership of the leases therein. The State-Federal and fee lands within the units have been denoted, also the location of the proposed test.

Q Does it show the ownership of the acreage in the area?

A Yes, it does. There are two minor changes that need to be noted on this exhibit. In the northern part of the unit there are three tracts of land that are shown to be open and

they are denoted by No. 61 in the extreme northwest corner, Unit 63 and also 64 into the northeast. These are shown to be open. They were purchased by King Resources at the July State sale so they are not open at the present time.

Q Now refer to Exhibit Number 2 and explain what that is.

A Exhibit Number 2 is a published surface geologic map, published by the New Mexico Bureau of Mines and Minerals Resources. The map shows the topography as well as the surface geology and the location of the proposed test. The unit embraces the mountainous area called the Brokeoff Mountains. These are very high, rugged mountains immediately west of the Guadalupe Mountains. There is a very narrow fault graben between the Guadalupe Mountains, which are to the northeast, and the Brokeoff Mountains. The Brokeoff Mountains are separated from this graben by a fault, a large fault shown on this map.

This map runs from the southern part of the unit area and the fault goes under a luvium in the graben and can not be traced north of Section 21 of Township 20, 5 South, 20 East. This fault is believed to be the controlling fault on a very large structure, which is the Brokeoff Mountains themselves.

Q What is the approximate surface elevation of this area?

A About approximately 5,800 feet.

Q Do you have any further comments with respect to this exhibit?

A No.

Q Take Exhibit Number 3 and explain that.

A Exhibit Number 3 is a photogeologic map showing dips and strikes that have been determined from aerial photographs in the area. It shows the very strong west dip throughout the Brokeoff Mountains themselves. This has developed a structure, a very large, long linear structure oriented north-south and the structure is made up of the west dipping fault block. This closure to the east is believed to be the large fault that was mapped by the surface geology and closure to the west on this structure should be the west dip that is shown on this surface geology map or any one of a number of faults that are shown on the west side of the structure.

Q Refer to Exhibit Number 4 and explain that to the Examiner.

A Exhibit Number 4 is a total intensity magnetometer map. This magnetic map shows a fault to the east of the proposed location, thus giving some confirmation for the

faulting that we see that is on the east side of the structure. The fault also shows faulting, a northwest-southeast fault near the northern part of the proposed unit. This is a fault that is up to the southwest and is believed to be the northern limit of the structure. This fault could control the structure on the north. There is another fault shown that has been interpreted south of the New Mexico-Texas State line. This could be the closing contour, closing structural boundary for the structure on the south.

Q This indicates a high to the east of the proposed unit. Is that a structural high necessarily because this being a magnetic map?

A No, that would be interpreted to be a large basement anomaly. This would be a lithological feature in the basement rather than a structural feature that would determine structure above the sediments above the basement rocks.

Q Now refer to Exhibit Number 5 and explain that.

A Number 5 is a structure map drawn on the top of lower Devonian. It is an interpretation utilizing the previous three maps, the surface geology, the photogeology and the magnetometer study. The west dip that is seen on the photogeologic map and the faulting is shown has been interpreted to be present at a depth beneath the surface rocks. The large fault that crosses the structure on the east is colored in red and the location of the proposed well

is also shown.

There have been two wells drilled in the vicinity, one in the western part of the area. This well penetrated Montoya rocks and a well in the southern part of the area.

Q How deep are these wells?

A The well to the west was drilled to 4,995 feet; the well to the south at 4,500 feet and stopped in Wolf Camp sediments.

Q What does "A" and "A Prime" indicate?

A "A" and "A Prime" is a cross section that runs from the well to the southwest across the proposed location.

Q And that would be shown by the next exhibit?

A That is the next exhibit.

Q Any further comments with respect to Exhibit Number 5?

A No.

Q Refer to Exhibit Number 6 and explain that.

A Exhibit Number 6 is the cross section. It shows the strong west dip that is present and is shown by the photogeology. It shows the faulting that has been interpreted from both photogeology and the surface structure. It also shows the proposed location. The well is expected to be drilled to approximately 7,000 feet. The control on this is quite -- is not tied down to complete depth of the well. The depth has been taken from a magnetic basement depth estimate which shows the basement



to be at about minus 1,000 feet. We realize that some of these basement depth estimates can be in error, but we believe 7,000 feet would be the deepest that would take to test cambium rocks in the area.

Q What are the probable oil producing zones that you would penetrate by this initial well?

A The primary objectives would be the San Andres formation, the Abo. There are possibilities in the Wolf Camp and Pennsylvanian sediments and also in the Devonian and Ard Fisher.

Q Any further comments with respect to this exhibit?

A No.

Q Has this area been approved by the U. S. Geologic Survey for a proper area for unitization?

A Yes, it has. Exhibit 7 is a letter of approval for this unit.

Q Did the U.S.G.S. indicate the formal agreement that they desired be used as far as Federal lands are concerned?

A Yes.

Q Are you familiar with the proposed unit agreement, copies of which have been filed in this case?

A Yes, I am.

Q Who is named as the unit operator in the unit agreement?

A King Resources Company.

Q Does it provide for the drilling of the initial test well which you previously testified to?

A Yes, it provides for a test to be drilled to a maximum depth of 7,000 feet or to the Cambrium-Bliss Formation.

Q But you are not required to drill it in excess of that 7,000 feet?

A That's correct.

Q Have you, or someone for King Resources, contacted the various working interest owners in the area?

A Yes, they have been.

Q With respect to the unitization?

A Most of the major land owners within the unit have been contacted.

Q What do you anticipate will be committed ultimately to this unit agreement?

A Ultimately we should commit ninety percent of the lands in the unit to the unitization.

Q In your opinion, if this unit agreement is granted, would it be in the interest of conservation and prevention of waste?

A Yes.

Q And tend to preserve correlative rights?

A Yes.

MR. HINKLE: We would like to offer in evidence Exhibits 1 through 7.

MR. UTZ: Without objection, Exhibits 1 through 7 will be entered into the record of this case.

Questions of Mr. Stump? Statements in the case?  
Case will be taken under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
RICHARD STUMP	
Direct Examination by Mr. Hinkle	2

<u>E X H I B I T S</u>		
<u>EXHIBIT</u>	<u>MARKED</u>	<u>OFFERED AND</u>
<u>-----</u>	<u>-----</u>	<u>ADMITTED</u>
Applicant's 1 through 7	2	11

STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I, SOVEIDA GONZALES, 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 that the same is a true and correct  
record of the said proceedings, to the best of my knowledge,  
skill and ability.

Souenda Gonzalez  
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case 4385, heard by me on Aug 5, 1970.

\_\_\_\_\_, Examiner  
New Mexico Oil Conservation Commission