

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 12, 1967

IN THE MATTER OF:)

Application of Humble Oil)
and Refining Company for a)
unit agreement, Lea County,)
New Mexico.)
Application of Humble Oil)
and Refining Company for a)
waterflood project, Lea)
County, New Mexico.)

Cons. Case No. 3615 3616

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

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MR. NUTTER: The hearing will come to order, please.
The next case this afternoon will be Case 3615.

MR. HATCH: Case 3615, Application of Humble Oil and Refining Company for a unit agreement, Lea County, New Mexico.

MR. NUTTER: Do you think we could put this altogether?

MR. HINKLE: Yes.

MR. NUTTER: Call also please, Case 3616.

MR. HATCH: Case 3616, Application of Humble Oil and Refining Company for a waterflood project, Lea County, New Mexico.

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant and Christy, Roswell, representing Humble Oil and Refining Company. I would like to move that these two cases, 3615 and 3616 be consolidated.

MR. NUTTER: Cases 3615 and 3616 will be consolidated for the testimony.

(Whereupon, Applicant's Exhibits 1 through 10 were marked for identification.)

MR. HINKLE: We have three witnesses, Monty Gist, Art Kelley and Marvin Wigley and I would like to have them sworn.

(Witnesses sworn.)

MR. HINKLE: Incidentally, Mr. Examiner, we agreed to pay for the advertising of these two cases so as to get

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them on the docket and I just have the proof of publication there, if you want them.

MR. NUTTER: I notice that we got a proof of publication from one of the papers and I presume that we did from the other.

MR. HINKLE: I turned those in so that you will have them complete.

MR. NUTTER: Let me go check on this right quick to see if we got the proof of publication.

MR. HINKLE: You can just keep them if you want to.

MR. NUTTER: Okay. Fine. And did you get your invoices from both the newspapers, also?

MR. HINKLE: Yes, they're all paid.

MR. NUTTER: Okay.

MONTY J. GIST

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name?

A Monty Gist.

Q And by whom are you employed?

A Humble Oil and Refining Company.

Q Are you a graduate geologist?

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A Yes, sir, I am.

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

A I graduated from Oklahoma State University in 1956, was immediately employed with Humble Oil and Refining Company and have been working in the Permian Basin complex of West Texas and New Mexico, since that time. Currently I'm a geologist in a joint interest group in the Midland division.

Q Have you made a study of the Paddock (San Angelo) area?

A Yes, sir.

Q Pool?

A Yes, sir.

Q What does that study consist of?

A That study consists of a review of the geologic nature of the Paddock and surrounding area.

Q You have not previously testified before the New Mexico Oil Conservation Commission?

A No, sir.

Q MR. HINKLE: Are the witness' qualification satisfactory?

MR. NUTTER: Yes, they are.

Q (By Mr. Hinkle) Are you familiar with the applications of Humble Oil in these two cases, number 3615 and 3616?

A Yes, sir.

Q Have you prepared any exhibits to be introduced in this case or have they been prepared under your direction?

A Yes, sir.

Q Will you refer to Exhibit Number 1, and explain to the Commission what it is and what it shows? We have already distributed the exhibits to the Commission.

A Exhibit Number 1 is a base map of the Paddock field. The dashed, heavy dashed line within this area is the proposed boundary of the Paddock unit. The stapled, long stapled pattern indicates the State lease. The small dotted pattern indicates the Federal leases. The map shows on it all of the wells within the Paddock area and as the symbols indicate, this is a field with multiple completions, some 14 or so zones are productive in the area.

Q Are all of the wells up to the northeast producing from the Paddock, too?

A No, sir.

Q The northwest?

A The northwest, no, sir, they are not. There are several wells up there. However, they do not appear to be contiguous as far as productive communication is concerned between the proposed unit area and the area to the northwest.

Q Now, refer to Exhibit number 2 and explain what it shows?

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A Exhibit Number 2 is a similar map showing the unit boundary but it also has the surrounding lease ownership within a two mile radius of the proposed unit pilot injection area which would be proposed to be located in Section 35, T. 21, 37 East and in Section 2 T. 22 South, Range 37 East. Also on this base are the proposed future injection wells as indicated by the small triangles within the unit boundary.

Q By future, you mean that in the event the pilot area is expanded, that these are the likely wells to use in expansion?

A That's correct.

Q Anything further with respect to Exhibit Number 2?

A No, sir.

Q Now, refer to Exhibit Number 3 and explain what that shows?

A Exhibit Number 3 is a structure map, contoured on top of the Paddock A zone. If you will look at Exhibit 3-A, we have a typical log showing the Paddock member of the San Angelo formation. This map is contoured on top of the A. zone as you can see, here. It falls about fifty feet on top of the upper A. zone. The structure map has approximately forty to fifty feet of relief on the west side and approximately a 180 feet of relief or enclosure on the east side. As you can see, the overall configuration of the Paddock field is an elongate structural feature. I might point out here that the Paddock

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production is not related to structure, at least the primary is related in part to structure but primarily the controlling factor, controlling trapping mechanism here is stratigraphic along the length of the field back along the flanks of the proposed unit area. The porosity and permeability are controlling factors along with high water cuts. There is not a consistent water level in the field. It is erratic.

MR. NUTTER: That's along this east length over here, that you're talking about? Or would that also include the west side?

A That also included the west side. And there is porosity and permeability from this main study area within the proposed unit area and the area of the Paddock was to the northwest. They appear to be noncontiguous, as far as effective communication is concerned there is one well linkage there, a narrow band linkage there and as far as the reservoir is concerned, the northwest portion is noncontiguous because later development to the north, later drilling and recompletion work of the northwest portion, indicated that the well is to be, to have eight or nine hundred pound pressure compress, higher pressure than the main Paddock area.

Q (By Mr. Hinkle) That's upon the completion of the well?

A That's upon the completion of the well, yes, sir.

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Q Now, is that the reason why the proposed unit area has been outlined as it is and so as to exclude the area which you refer to in the northwest and west?

A Yes, sir. It is, we feel it is not an effective communication, the well would not be effective to the northwest.

Q Well, in your opinion, does the proposed unit area cover all, substantially all of the producing area, that is the same reservoir from which the Paddock wells are producing?

A Yes, sir. Well, with the exception of one or two wells that are not in the unit at the discretion of the operator.

Q Is it your opinion that the injection of water in the proposed unit area would not affect the wells which are in the area shown on the structural map toward the northwest and west?

A Yes, sir.

Q So, that's the reason they have been excluded from the proposed unit area?

A That is correct.

Q Have the wells producing in the proposed unit area reached an advanced stage of production?

A Yes, sir, they have. The 86 producing wells in the field -- 86 wells, 70 producing, the average production is a little over six barrels per day. That is the average production

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in the San Angelo.

Q In your opinion, would these wells be regarded under the term of stripper wells?

A Yes, sir.

Q Do you have anything else with respect to 3 and 3-A?

A No, sir.

Q Now, turn to Exhibit Number 4 and explain what it shows?

A Exhibit Number 4 is the diagrammatic cross section through the north portion of the proposed unit area as can be seen on the cover, extending across the top row of wells in Section 2, 22 South, 37 East. This cross section was prepared to show the general structural relief across this general portion of the field and to indicate, give an indication of how the Paddock member of the San Angelo formation has been broken down into zones by the technical study group. It also aides in the location of perforated intervals in the Paddock wells, themselves and in the 29 wells, where they exist.

Q Would you say that the Paddock formation correlates real good in all the wells that are shown on this cross section?

A The three zones as has been defined here as A, B, and C, correlate good on the S.P. curve, they are correlated primarily by interval on the gamma ray neutron log but overall and throughout the field the three zones can be carried --

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Q There is a good continuity throughout the whole unit area as far as these three zones are concerned?

A As far as the three zones we have defined are concerned, the porosity and permeability varies within each zone.

Q Is it the intention of Humble to inject water into all three of these zones?

A Yes, it is far productive.

Q And you propose that all of the injection wells in the initial pilot and later extended, would be open to these three zones so water could be injected?

A Yes, sir, where they are deemed productive.

Q Now, referring to Exhibit Number 5, is that what you have?

A No, sir.

Q Okay. Is there anything else that you want to bring out from a geologic standpoint?

A If you have no other questions, no, sir.

Q Okay. next, wait a minute.

MR. HINKLE: Do you have any questions?

CROSS EXAMINATION

BY MR. NUTTER:

Q I would like to know how universal are all three zones in the wells, in the unitized area?

A They are carried uniformly throughout the unitized area. However, the productivity varies in accordance with the porosity and permeability.

Q I noticed some of your wells here in the cross section, I think I noticed one that wasn't even drilled through zone C, apparently. That would be this Marathon-Lynch Number 3, third from the right. Now, it doesn't have zone C in it, at all, apparently. I wonder if it's the intention of Humble in setting these wells up for flooding if they open perforations in wells that don't have all three zones perforated?

A Yes, sir. They will. Depending on the well tests and the performance of the zones in the surrounding area.

Q If a neighboring well has it and this well is perforated in --

A To presume the continuity.

Q In other words, it's going to be an attempt to flood all three zones wherever it is indicated that it is positively productive?

A Yes.

Q Now, you also mentioned that you had a few wells on the west that were producing from this same reservoir but weren't in the unit, at the operators option. Would I be correct to assume that those Paddock wells belonging to Socony Mobil in Section 9, just west of the unit there would be that

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type of well, it appears that it's in the same pool? I was referring to your structure map, Exhibit 3. See that up there, number 7 there in Section 9 which is a Paddock well and number 2 up north of that is a Paddock well, evidently. Oh, I beg your pardon, that is General Skelly.

A That's a General Skelly.

Q All right, that's correct. Those are General Skelly wells. Number 11 in the northeast of 9 is a Paddock but it's labeled temporarily abandoned on your Exhibit Number 1.

A Yes.

Q The porosity --

MR. HINKLE: Was that acreage considered when you first tried to delineate the outlines of the unit area?

A Yes, it was. If you will refer to Exhibit Number 4, the heavy dark line that is the cross section, the heavy dark line around the Paddock field consists of, I think, 139 wells which was included in the initial study.

Q (By Mr. Nutter) And it was finally eliminated to the dotted line?

A Yes, sir.

Q Shown there on that exhibit?

A Yes, sir.

Q Now, in your direct testimony, you mentioned that there were 86 wells in the field, you meant in the unit, I

presume?

A Well, yes, sir.

Q In the unitized area?

A Yes.

MR. NUTTER: I believe that's all. Are there any further questions of the witness? He maybe excused.

* * * * *

A. L. KELLEY

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q Your name is Art Kelley?

A Yes, sir.

Q You're employed by the Humble Oil and Refining Company?

A Yes, sir.

Q What capacity are you?

A I'm reservoir engineer in the division office in Midland, a joint interest group.

Q Are you a graduate in petroleum engineering?

A Yes, I am. I graduated from Tulsa University in 1953 and have been employed by Humble since then, primarily as reservoir engineer.

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Q Have your studies as a reservoir engineer, included areas in New Mexico?

A Yes. Since coming into the division office in September of last year, I have been handling engineering involving some of our New Mexico interests.

Q Have you made a study of the Paddock (San Angelo) area?

A Yes, I have.

Q What does that study consist of?

A When I came in in September of last year, I reviewed the engineering committee report and all of the correspondence in connection with this unitization effort beginning with the first operators meeting in April of '61. Since then, I have been assigned to this project and have participated in revising the agreements and other unitization work that has been done during that period.

Q Are you familiar with the applications of Humble in connection with cases 3615 and 3616?

A Yes, I am.

Q Are you familiar with the contemplated plan of development or secondary recovery operation of Humble?

A Yes, I am.

Q Have you previously testified before the New Mexico Oil Conservation Commission?

A No, I have not.

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

MR. NUTTER: Yes, they are.

Q (By Mr. Hinkle) Have you prepared certain exhibits for use in connection with this case or have they been prepared under your direction?

A Yes, I have.

Q Refer to Exhibit Number 5 and explain what it shows?

A This Exhibit Number 5 is a base map of the general area similar to Exhibit Number 1, the primary difference being that it shows only the six planned pilot injection wells, one being in Section 5, Township 21 South, Range 33 East, the other five being in Section 2, Township 22 South, Range 33 East. Also this map shows the pilot project area which is circled by a dashed line there that encloses the injection well plus the diagonal and direct offsets to the pilot injection wells.

Q What sort of a pattern would be formed by the first six injection wells?

A Our planned pilot will be two 80 acre five spots. These wells are now Paddock completion.

Q How much water do you contemplate would be injected into these six wells, initially?

A About a thousand barrels a day per well or six thousand

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barrels per day total.

Q What are Humble's plans in the event you do obtain a favorable response within a reasonable time of the injection of water into the pilot area?

A As soon as the pilot evaluation indicates a favorable flood or successful flood, our plans are to expand following the five spot pattern as shown on Exhibit 2 that has already be discussed, it shows our expanded, our tentative expanded pattern.

Q Have you prepared, or was there prepared under your direction, a diagrammatic sketch of each of the proposed additional injection wells?

A Yes, it was.

Q Refer to Exhibit A and explain what that is?

A This is Exhibit 6. We have a schematic diagram of each pilot injection well and those are lettered 6-A through F. These sketches show all of the casing, the cement volume and cement tops and the descriptions of each tubing stream and packer and our planned injection interval which takes in the entire unitized formation.

Q Are all of these sketches of each of the six wells substantially the same?

A Yes, they are.

Q The only difference is in the depth of the casing and

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the depth of the tubing, I guess, isn't it?

A That's correct. They all will have tubing and packers.

Q Do you know whether or not a copy of the application for waterflood project was furnished to the State Engineer?

A Yes, it was.

Q Do you know whether or not the State Engineer has voiced any objection to the proposed plan?

A There has been no objection.

Q Where does Humble propose to get water, the water supply for carrying on this project?

A We have received permits to drill six-five thousand foot injection wells in Section 2 which shows the Humble State S. Lease on the previous maps. These would be San Andres wells, would be a non potable water.

Q Now, in the original application, when it was filed, it was indicated that Humble had made application to the State Engineer to appropriate 1950 acres of water for this purpose but that the application had not yet been acted upon. Since the filing of this application has that, has it been approved by the State Engineer?

A Yes, it has been approved for 1950 acre feet.

Q Is it stated that the water produced for these water wells would be fresh water or brackish water or what?

A It will be non potable water. We haven't actually

drilled in the wells but from the other wells in the area, we know it will be.

Q You propose to drill one well initially to start the project area?

A That's correct.

Q And then drill additional wells as needed?

A That's correct.

Q Have you compiled any information with respect to the production history to the Paddock (San Angelo) Pool?

A Yes, sir, I have.

Q Refer to Exhibit Number 7 and explain what that shows?

A Exhibit 7 is the production decline curve for the proposed unit area. We have plotted the annual production and each year's annual average production is plotted on the line, the vertical line for that particular year. This covers the period from the beginning of development in 1945 through the year 1966. We had a peak rate in 1948 of about a million and a half barrels per year and the average in 1966 was a hundred and seventy-one thousand barrels per year or about 11 percent of the peak rate. The accumulative production as of April 1st of '67 is about twelve and a quarter million barrels and as you can see, we are, we have been in a decline several years and we consider this a stripper stage in production.

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Q Have you made any calculation as to what you might reasonably expect to recover by this secondary recovery operation?

A Yes, we estimate the secondary recovery to be about 9,300,000 barrels. This is roughly 75 percent of the primary. The value of this oil will be about \$23,300,000.00.

Q The proposed unit agreement, copies of which have been filed with the application, changing the formula for the distribution or allocation of production, did you have anything to do with that formula?

A I am familiar with it. This formula was negotiated before I had any connection with the unit but I can review what it's based on.

Q That was negotiated among all of the operators in the proposed unit area?

A That's correct. The primary phase is to extend until a total of 768,239 barrels of oil have been produced after January 1st, 1964. This phase is based fifty percent on 1964 adjusted revenue and fifty percent on the estimated January 1st, '64 remaining primary. The secondary will last from the end of the primary phase to the end of the project and it's based 100 percent on the estimated ultimate recovery, ultimate primary, including the psuedo-ultimate primary assigned to certain undeveloped tracts.

Q Did Humble and all of the other operators who have

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joined in this unit agreement reached a conclusion that this was a fair and equitable formula?

A They did reach a substantial agreement. I think it was generally agreed that it was impractical to map net pay accurately enough for the use of this as the perimeter so this was the reason for using the estimated ultimate primary based on the declined curves as an indication of the net pay under each tract.

Q Is it your opinion that this formula will protect the correlative rights of all the parties?

A Yes, It will.

Q Both the working interests and the royalty owners?

A That's correct.

Q Due to the fact that you propose to start a pilot project area and to expand it, in your opinion, would it facilitate the plan and the carrying out of this operation for the Oil Conservation Commission to provide an administrative procedure for the expansion of the project pilot area and also to approve additional injection wells?

A Yes, it would. The sole purpose of the pilot, of course, is to determine whether we can go on to the full scale expanded flood. We already have made plans for this expansion in the event the pilot is successful. We have prorated an adequate water supply and are certain it would be to some

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advantage to be able to proceed with this expansion without any further hearings? Is Humble seeking the establishment of a project allowable as provided by Rule 701 of the Commission?

A Yes, it is.

Q Do you have anything further with respect to the Engineering standpoint that you would like to say to the Commission?

A I believe not.

MR. HINKLE: That's all of this witness.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Kelley, your production decline curve here, indicates that during 1966 the unit area produced approximately 170,000 barrels of oil or some such figure?

A Yes.

Q How many wells was that coming from and how does that work out to be an average daily per well production figure?

A At that particular time during March, there were 70 wells actually producing and 16 wells shut in in the unit area.

Q How about during '66?

A I don't know if there has been any drastic changes. That would be within one or two wells of that same number for the year. It has been fairly substantial. I am again, looking

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at March. I have a summary hear, I think. At any rate, this is approximately seven barrels per day per producing well for March of '67, which is slightly lower than the average for '66.

Q Let's see, the average depth here is a little more than five thousand feet, sin't it?

A Yes.

Q So, you figure seven barrels per day at a depth in this neighborhood, is a stripper stage?

A Yes, actually the engineering committee arrived at a figure of three barrels a day as an economic limit so, we are slightly over twice the economic limit on the average.

Q Now, on this tract participation formula, how many operators in the unit have agreed to this formula, did you have 100 percent commitment for a working interest in that?

A No, we have a man prepared to testify as to the sign up status here.

MR. HINKLE: The next witness, Mr. Wigley, will testify with respect to the interests that have been committed.

Q (By Mr. Nutter) I see. Mr. Kelley, will this tubing be treated in some manner to prevent corrosion?

A These plans are to plastic coat the tubing.

Q How about the annulus between the tubing and the casing?

A We normally put corrosive inhibited fluid in there,

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use a water inhibitor.

Q And there will be a packer in each case?

A Yes, sir.

Q Now, I count up about 25-40 acre tracts in the initial project area, is that about what you had counted?

A I hadn't --

Q With the determination of the allowables -- Anyway, it's the area within this little dotted line?

A Yes.

Q And is there a Paddock well in each one of those forty acre tracts?

A Yes, there is.

Q Okay.

A In some cases they are shut in but they are completed.

Q You hope that they will be activated?

A Yes, sir. We hope they will produce.

MR. NUTTER: I believe that's all. If there are no further questions, the witness may be excused.

* * * * *

MR. HINKLE: All right, the next witness, Mr. Marvin Wigley.

MARVIN L. WIGLEY

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, whom you're employed by and where do you live?

A Marvin L. Wigley, I'm employed by the Humble Oil and Refining Company as a unitization landman at the division office in Midland.

Q What is your position with Humble?

A I'm a unitization landman.

Q Are you familiar with the applications of Humble in Cases 3615 and 3616?

A I am.

Q Have you been in charge of, you might say, of putting together this unit agreement, unit operating agreement and getting it executed by all of the interested parties?

A Yes, sir, I have.

Q Do you know whether or not the proposed unit area has been approved by the Director of the United States Geological Survey?

A Yes, on May 25, 1966, Humble made applications for the designation of this area and this area was designated by the U.S.G.S. by their letter of July 27th, 1966.

Q Is that Exhibit Number 8?

A Yes, this is the Exhibit Number 8.

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Q Was there an amendment to this designation as shown by the letter of July 27th?

A Yes, Gulf Oil Corporation requested that the southwest quarter of the northeast quarter of Section 3, Township 22 West, Range 37 East, be omitted from the unit area for the reason that this well, this acreage was not producible from the unitized formation and that the well is not necessary for unitization secondary recovery operations. This amendment was approved by the U.S.G.S. by letter dated May 3rd, 1967.

Q Let's see, that's Exhibit Number 9?

A This is Exhibit Number 9.

Q Has the area also been approved, that is the outlines of the area in the form of a unit agreement been approved by the Commissioner of Public Lands?

A Yes, they have.

Q And has the form of unit agreement been also approved by the Director of the U.S.G.S.?

A Yes.

Q Now, that approval is in connection with the original letter designating the unit area?

A This is true, this is true.

Q Is the formal unit agreement which is being proposed in this case, substantially the same as that which has heretofore been approved by the Commissioner of Public Lands, the Oil

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Conservation Commission and the U.S.G.S. where Federal, State and fee lands are involved?

A Yes, it is. Of course, the participation formula in these agreements, vary according to what is negotiated among the operators but the form is substantially the same as that generally used.

Q Is Humble designated as the unit operator in the unit agreement?

A Yes, we are.

Q I believe that you testified that you have been in charge of getting the unit agreement signed up. Can you give, tell the Commission what's the present status of the execution of the unit agreement?

A Yes. There are 31 tracts shown within the outline of the unit, your plat, Exhibit A, attached to the unit agreement. Of these, 24 tracts comprising 82.97 percent are qualified for inclusion in the unit in accordance with the terms of the unit agreement. Now, in these 24 tracts, they are signed 100 percent as to working interest and 85 percent or more as to royalty interest. Just as a matter of general information, we have royalty owners comprising 95.86 percent of the entire royalty under the unit now committed. This, we, of course, will continue our efforts with regard to present unsigned interests.

Q I believe the Examiner asked another witness there, what tracts had been omitted. Do you have a plat which would show that?

A Yes, I have this and I will show the Examiner this well --

Q Refer to Exhibit Number 10 and explain the tracts which have not been committed to the unit agreement in accordance with the provisions of the unit agreement, that is the qualifications and why they have not been committed?

A Mobil Oil Corporation is the operator in tracts 13 and 22. There, Mobil had a disagreement with the participation formula as to those tracts. Now, they have thus far and we assume that they will not ratify this particular unit. Sunray in tracts 28 and 29 were not satisfied with the formula and did not join for the same reason. T. P., Texas and Pacific in tracts 2, 3 and 18 have the same position. Now, in a number of these tracts, there are several of them, are qualified from a royalty standpoint but the operator has thus far not seen fit to join. In some instances, I won't go into detail but in some instances, one operator's tracts would fit as far as the formula was concerned but it didn't fit as far as the other tract was concerned and therefore, they didn't sign.

Q Do you anticipate that on farther down the road some place that these tracts might possibly be committed, particularly

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pilot
in the event that the ~~pile~~^{pilot} up proves to be satisfactory and you go ahead and expand the unit?

A These parties have not indicated anything in this regard as of the present time. It seems reasonable that this might happen.

Q This shows all that in yellow has been committed in acreage?

A This is the portion of the unit that will become effective as it stands right now. Now, of course, in this sign up, I have assumed the State and Federal government, of course, will issue their usual approval on it since they have seen the forms. I have counted this as signed, for our figures.

Q Now, how long, how much time has been consumed in putting this unit together, as far as meetings of the operators are concerned and trying to reach an agreement on an equitable formula?

A I believe this started back about 1960 or '61. Pardon me. I have it here somewhere. The first operators meeting was held in April, 1961. The first technical committee meeting was held in May of '61 and there have been numerous meetings since that time. A great deal of work has gone into this and we feel that if the unit is not put together--We know there are some unsigned tracts--but we feel that if it's

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not put together at this time, that if we have to start over, it may never get put together. This is something we couldn't answer.

MR. HINKLE: Did you have any questions?

MR. NUTTER: No further questions.

Q (By Mr. Hinkle) In the event the unit agreement is approved, do you feel that the unit agreement will be in the interest of conservation and the prevention of waste?

A Yes, I do.

Q Is it your opinion that it will promote the greatest ultimate recovery of unitized substances?

A Yes.

Q State whether or not in your opinion the unit agreement will also be in the interest of protection of correlative rights?

A I believe it will.

Q Is there anything else that you would like to bring out to the Commission?

A No.

MR. HINKLE: That's all of the testimony.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Wigley, with regard to these tracts that aren't being committed, how much total acreage comprise those seven tracts?

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A If you will give me just a moment, sir, I'll tell you that. The 24 tracts, there is a total of 3758.3 acres in the unit. These 24 tracts comprise 3118.3 acres so, subtracting that is, 640 acres, according to a quick calculation there.

Q Now, in the event that the flood, the pilot flood is successful and that you go on to expand the flood and these tracts are still not committed to the unit, will Humble attempt to work line agreements with the operators of these tracts so the flooding could go up to their leases and possibly they could operate their own floods then?

A Yes, we do have plans for that, do we not?

MR. KELLEY: I think those would be our only two alternatives.

A Yes, for the reason that it's our only alternative there.

Q (By Mr. Nutter) So, that it's not necessarily fatal to the operation if these tracts aren't committed?

A No, it is not.

Q And of the 24 tracts which qualified, you do have 100 percent committment working interest?

A And within limits as required by the agreement for royalty.

MR. HINKLE: And they anticipate, do you not, that you will continue your efforts?

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A Oh, yes, we definitely plan to continue our efforts.

MR. HINKLE: But, you will not withhold the filing of the unit agreement for approval?

A No.

MR. HINKLE: Until you get every royalty owner in it?

A No, we are requesting approval, at this time.

Q (By Mr. Nutter) Although this letter of July 27th, 1966 as amended by the letter of May the 3rd, 1967 from the United States Geological Survey, doesn't in itself, approve the unit agreement, it does say that the unit area is an acceptable area and that the form of the unit is an acceptable form?

A Yes.

Q And they have stated what your participation formula is?

A Yes.

Q So, presumably, they have given tentative approval to your participation?

A Yes, I have counted this in the sign up here in order to qualify the specific number of, amount of the unit area that we have to qualify.

Q And how do you stand with the Commissioner of Public Lands?

A He has tentatively approved the form. This was cleared

with him sometime back. I can't give you an exact date but they have, there is a letter in our files from your firm, I believe, advising that they have been advised by the Commissioner that this is a satisfactory form.

Q Including the participation formula?

A Yes, this is true.

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

MR. HINKLE: For your own information, the Commissioner of Public Lands approved it right after the U.S.G.S. did, after we got approval from the U.S.G.S and at our conferences with the U.S.G.S., this letter was intended as an approval of the formula as well as the formal unit agreement designation of the area. There is no question about that.

MR. NUTTER: Very good.

MR. HINKLE: Because the approval was withheld for a time until Humble furnished additional information as to how the formula was based on before they would approve it.

MR. NUTTER: If there are no further questions of the witness, he may be excused. Let's see, do you have the exhibits?

MR. HINKLE: I would like to offer into evidence, Exhibits 1 through 10, inclusive.

MR. NUTTER: Humble's Exhibits 1 through 10 will be

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admitted into evidence. Do you have anything further, Mr. Hinkle?

MR. HINKLE: No, I would like to say this, that in view of the present status of the signing of the unit agreement, it is the plan of Humble to present this to the Commission of Public Lands for their approval, next Tuesday and if the Commission could get the order ready, assuming they will approve the unit agreement, just the ones on Case 3615, so we will have it ready for the Commissioner by Tuesday, we would certainly appreciate it. Now, the other, you can take your time on.

MR. NUTTER: We will try to get this one for you. If there is nothing further in these cases, we will take the cases under advisement. The hearing is adjourned.

(Whereupon, Applicant's Exhibits 1 through 10 were offered and admitted into evidence.)

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STATE OF NEW MEXICO)
) SS.
 COUNTY OF BERNALILLO)

I, JOE B. JAMESON, Notary Public 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.

Witness my Hand and Seal this 19th day of July, 1967.


 Notary Public

My Commission Expires:

June 25, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the manner bearing of Case No. 3615-3616 heard by me on 7/12, 1967.

 Examiner
 New Mexico Oil Conservation Commission

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