

BEFORE THE
 OIL CONSERVATION COMMISSION
 Santa Fe, New Mexico
 March 23, 1960
 EXAMINER HEARING

 IN THE MATTER OF:)

Application of Honolulu Oil Corporation)
 for approval of a unit agreement. Ap-)
 plicant, in the above-styled cause,)
 seeks approval of its North Mullis Unit)
 Agreement, which unit will embrace ap-)
 proximately 1922 acres of State, Fed-)
 eral and fee land in Townships 14 and)
 15 South, Range 29 East, Chaves County,)
 New Mexico.)

Case 1925

 BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order. Case 1925.

MR. PAYNE: "Case 1925. Application of Honolulu Oil Corporation for approval of a unit agreement."

MR. CHRISTY: Sim Christy, Hervey, Dow and Hinkle, for the applicant, Honolulu Oil Corporation. We apologize for the lateness in submitting the unit agreement. It is hot off the press, so-to-speak, from San Francisco last Saturday and just arrived in Santa Fe yesterday. My understanding, it is a typical Federal-State unit. We have three short witnesses.

(Witnesses sworn.)

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



I N D E X

<u>WITNESS</u>	<u>PAGE</u>
LEO BRADY	
Direct Examination by Mr. Christy	2
Cross Examination by Mr. Payne	8
Redirect Examination by Mr. Christy	10
L. H. JOHNSON	
Direct Examination by Mr. Christy	11
GEORGE R. HOY	
Direct Examination by Mr. Christy	15
Cross Examination by Mr. Utz	19

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



LEO BRADY

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATIONBY MR. CHRISTY:

Q Would you please state your name, address and occupation?

A Leo Brady, Drawer 1391, Midland, Texas.

Q By whom are you employed and in what capacity?

A Honolulu Oil Corporation as Division Land Man, Mid-Continent Division.

Q Are you familiar with the matters contained in this application, being Case No. 1925, before the Commission?

A Yes, sir.

Q Are you familiar with the area covered by the proposed unit agreement?

A Yes, sir.

Q Would you please tell the Examiner the unit area covered by the agreement?

A The unit area embraces all Sections 33, 34, Township 14 South, Range 29 East and the North half of Sections 3 and 4, Township 15 South, 29 East, Chaves County, New Mexico. These lands total 1921.92 acres.

Q Are the lands owned by the United States, the State of New Mexico or private individuals? If there is any variation



will you give us the acreage owned by each?

A The lands covered by the proposed unit area consist of 141.92 acres of land, owned by the United States of America; 370 acres of land owned by the State of New Mexico, and 320 owned by private individuals.

Q Who is designated as the unit operator under the agreement?

A Honolulu Oil Corporation, whose address is Box 1391, Midland, Texas.

Q What's the purpose of the unit agreement?

A The unit agreement provides for the drilling of an exploratory well to test the Devonian formation, which is expected to be encountered at approximately 10,200 feet.

Q Has the drillsite been chosen yet?

A A tentative drillsite has been selected in the Northeast Quarter of the Southeast Quarter of Section 33, Township 14 South, Range 29 East.

Q Are you familiar with unit agreements for exploratory purposes that have previously been approved by the Director of the United States Geological Survey, the Commissioner of Public Lands of the State of New Mexico, and this Commission?

A Yes, sir.

Q Is this unit agreement in substantially the same form and tenor as those previously approved by the Director, the



Commissioner and the Commission?

A Yes, the unit agreement involved in this application is substantially the standard Federal form of unit agreement, modified to include provisions with respect to State land, and the form of this unit agreement is in general use by the oil industry in the State of New Mexico.

Q Has the unit agreement been submitted to the Commissioner for approval and, if so, has such approval been obtained?

A The final draft was just completed the other day and this morning we did submit to the Commissioner the form of the unit agreement. Previously, and by our letter of February 26, 1960, we advised the Commissioner of the proposed unit agreement. We would anticipate that we will shortly obtain from the Commissioner the approval of the unit agreement as to form and content.

Q Has the unit agreement been submitted to the office of the Geological Survey for approval, and if so, has such approval been obtained?

A As I mentioned a moment ago, the unit agreement itself has just been completed. However, we did advise the Geological Survey of the proposed unit by letter of February 26, 1960, and various employees of Honolulu Oil Corporation have had three or four conferences with the Geological Survey staff in Roswell, New Mexico. I understand that requests for unit area designation has been forwarded from the Survey's Roswell office to Washington.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



D. C., and we hope that the unit area will be approved by the Director in the immediate future. Also I might mention that copies of the form of the unit agreement will be submitted to the United States Geological Survey at Roswell, New Mexico tomorrow morning.

Q Have you obtained commitments or ratifications of the unit agreement by the working interest owners and royalty owners; if you have obtained any, tell us the percent of these?

A The unit agreements are in the process of being mailed out to the various interested parties. However, we have informal approval of the basic unit agreement, substantially 100% of the working interest owners. I am not certain whether or not the fee royalty owner has been contacted as this tract is owned by Gulf. However, and as I mentioned previously, the royalty interests of both the Federal and State lands have been contacted. I don't believe that any of the overriding royalty owners, and there are only a few of them, have yet been contacted. This, of course, will be the job of the interested working owner. I might also mention that there have been several working interest owners meetings, and based on these and other comments, we presently anticipate 100% commitment by the working interest owners and at least 95% commitment by the royalty interest owners. This, of course, assumes ultimate approval by the Federal and State government.

Q What is the effective date of the unit?

A Under Section 20 the unit agreement is effective as of

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



the date of approval by the Director.

Q Does the unit agreement provide for a plan of further development?

A Yes, sir, it contains the typical plan for further development which is provided in Section 10.

Q What is the term of the unit?

A The term is for a period of five years, and as long thereafter as unitized substances can be produced in paying quantities.

Q Now, Mr. Brady, under that if this unit agreement is approved by the Commission that Honolulu must furnish the Commission a fully executed copy thereof after the final approval, which would include any of the ratification and approval of other people?

A Yes, sir, we understand this, and such material will be furnished to the Commission.

Q I believe you previously mentioned that you were in charge of the Land Office of the Honolulu?

A Land Department, yes, sir, for the lands involved in this application.

Q Well, as head of the Land Department, have you caused the various Federal and State records to be examined with respect to the unit area and the ownership thereof?

A Yes, sir, my office has checked into this, the Federal

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



and State records in Santa Fe, New Mexico, and the information relative to the ownership of the fee lands was obtained from the lessees owning leases covering such fee lands.

Q Based upon this examination and the material that was furnished to you, does Exhibit B of the unit agreement faithfully reflect the ownership of the various tracts as disclosed from such examination and information?

A Yes, sir.

Q Mr. Brady, I believe yesterday you mentioned to me there was some urgency in connection with this application. Would you elaborate on that to the Examiner, please?

A Yes, sir, there is considerable urgency in this matter. There are two Federal leases which expire June the 30th, 1960, one of which covers the North Half of the Southwest Quarter and the Southeast of the Southwest Quarter of Section 33. And the other covers the Southwest Quarter of the Southwest Quarter of Section 33 in Township 14 South, Range 29 East.

Unless we can obtain production in the initial test well before that date the lease on these lands will expire. In view of the drilling history in this area we anticipate that it will take some eighty-five to ninety days to drill and complete the initial test well to the Devonian formation, and this means that the initial test well must be commenced on or about April 1st, 1960. Thus, there is extreme urgency in this matter, and we would

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



~~appreciate the Commission's earliest consideration of this appli-~~
cation.

I might state further that we apologize for the delay in presenting the application to the Commission, but it was in only very recent weeks that substantial agreement was obtained among the working interest owners and it was immediately after this that we filed the application in this case. I believe the application in this case was filed February 26, 1960.

Q Mr. Brady, do you have anything else to offer on this case from the land standpoint?

A No.

MR. CHRISTY: I might state that the subsequent witnesses will take up the geophysical and the geological portion. That's all from this witness. Excuse me.

MR. UTZ: Questions?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q What is your participation formula?

A This is what is known as an undivided type unit wherein all the working interest owners share in the costs in proportion to their ownership.

Q It's a fully participating unit?

A As to the working interest?

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



Q Yes. A Yes, sir.

Q And so it's actually based just on the straight acreage basis?

A Yes, sir.

Q Does this unit agreement contain a provision for expansion or contraction?

A Yes, sir, on Page 2, Section 2.

Q Yes, sir. Are there any wells drilled to any other horizon within the confines of this proposed unit?

A Within the unit area?

Q Yes.

A No, sir. I do not believe there have been in the unit area.

Q Mr. Brady, as a land man for Honolulu, what position do you take as to the leases which have been executed at Honolulu, part of the acreage which is included in the unit and part of which is not? I'll put it this way, do you take the position that discovery and production within the unit area perpetuates the balance of the lease which is not in the unit area?

A You speaking of Federal, State or fee ownership lease?

Q Well, generally any lease, and in particular State.

A Yes, sir, I believe it would perpetuate it. It would depend upon the provisions of the individual lease.

Q You don't feel that the acreage which is outside the



unit but part of the lease would expire at the end of the primary term even though no well had been drilled on such acreage outside the unit area?

A No. I believe acreage, or a well, producing well on the leased land would perpetuate the leased land.

Q Yes, sir. Now, what I'm getting at is say the discovery well, the producing well is not --

A Oh, on?

Q -- not on the lease, that particular lease?

A Oh, that's a different proposition. I do not believe it would.

MR. PAYNE: Thank you. That's all.

MR. UTZ: Are there other questions?

MR. CHRISTY: I have one question.

REDIRECT EXAMINATION

BY MR. CHRISTY:

Q I assume your last response to the question by Mr. Payne, you would defer to the Legal Department, would you not?

A Yes, he asked my opinion.

MR. PAYNE: In his capacity as a land man, Mr. Christy.

MR. CHRISTY: Not as a lawyer. That's all from this witness.

MR. UTZ: Any other questions? The witness may be excused.

(Witness excused.)



MR. CHRISTY: Mr. Johnson, please.

L. H. JOHNSON

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, address and occupation?

A Yes, sir. L. H. Johnson, Drawer 1391, Midland, Texas.

I am a seismologist.

Q By whom are you employed and in what capacity?

A I'm employed by the Honolulu Oil Corporation as the Mid-Continent Division seismologist.

Q Have you previously testified before this Commission as a geophysicist or seismologist?

A No, sir.

Q Would you briefly state to the Examiner the schools of higher learning you have attended, the date and degrees you have received?

A I was graduated from Colorado School of Mines in 1937 with a Geological Engineering Degree and geophysical option.

Q Since your graduation by whom have you been employed and in what capacity and area?

A From 1937 to 1946 I was employed by the Phillips Petroleum Company mainly as a party chief of the seismograph crew in the

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



Mid-Continent area, and from 1946 to date I have been employed by the Honolulu Oil Corporation as a seismologist and mainly as a division seismologist in West Texas, New Mexico, the Four Corners area and in other parts of the Mid-Continent area.

Q Are you familiar with the matters contained in this application, being Case No. 1925, before the Commission?

A Yes, sir.

Q Are you familiar with the land involved in the application as well as the land immediately surrounding it and the wells in the general vicinity?

A Yes, sir. I might also mention that the only well of any importance in the general area is the British American Hondo well in the Northwest Quarter of the Northeast Quarter of Section 27, Township 14 South, Range 29 East. This is a Devonian well and the top of the pay is at 10,222 feet.

MR. CHRISTY: Are the witness's qualifications acceptable, Mr. Examiner?

MR. UTZ: Yes, sir.

Q Do you have a contour map of this proposed unit area, Mr. Johnson?

A Yes, I have two. The first one is marked Exhibit 2 and is a seismic map contoured on the Mississippian with the measurements shown in time. The second is marked Exhibit 3 and it is likewise a seismic map contoured on the Mississippian with the

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



measurements shown in depth.

Q Now, Mr. Johnson, Mr. Brady just testified that this unit was for a Devonian test. Why are these exhibits drawn to the Mississippian?

A The reflection data can be mapped at the Mississippian but it can not be mapped at the Devonian.

Q Is there a map similar to Exhibits 2 and 3 with the geological information projected to the Devonian?

A Yes, sir, the next witness will show this map.

Q Will you briefly explain to the Examiner what is depicted by Exhibits 2 and 3?

A Yes, sir, Exhibit 2 is a seismic map in time and Exhibit 3 is a seismic map in depth. Actually we measure time in seismic surveying, but for clarity the time has been converted to depth, and I believe it would be simpler to utilize Exhibit 3 to answer your question. Exhibit 3 is a seismic map of the subsurface at the Mississippian horizon, which is at a depth of 9600 feet plus or minus below the surface or about 5800 feet below sea level.

The map has a contour interval of 50 feet and the scale of two inches equals one mile. On the map the proposed unit area is outlined by the heavy line. The small circles are shot points where the data is recorded. These show the control used in the preparation of the map. You'll please note the geophysical high in Sections 33 and 34, Township 14 South, Range 29 East, et cetera.



with its apex at the minus 5700 foot contour and near the Southeast corner of the Section 33.

The closing contour of the map is at minus 5800 feet and generally outlines the proposed unit. Closure to the Southwest is afforded by the fault which has been interpreted to have a displacement of 400 feet down to the Southwest.

Q So, as I understand you, Mr. Johnson, this unit area proposed in this application includes all or substantially all of the geophysical high within this closing contour of 5800 feet?

A Yes, sir. If you followed the line shown in Exhibit 3 at 5800, you'll note that the unit area encompasses substantially all of the geophysical high within this closing contour and, of course, it is bounded on the Southwest by the fault that I have mentioned previously.

Q Mr. Johnson, from geophysical information that's available, do you believe that the boundaries of the unit encompass a sufficient area to assure adequate control of the structure?

A Yes, sir.

Q I believe Exhibits 2 and 3 indicate that the present proposed location of the initial test well will be approximately on this structural high?

A Yes, sir, that is correct. I might also state that from the information available it would appear that the Devonian pay in the proposed well will be encountered approximately a hundred

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



feet high to the Devonian pay in the British American well.

Q Were Exhibits 2 and 3 prepared by you or under your direction and supervision?

A Yes, sir.

Q Do you have anything else to add to your testimony that might be of interest or information to the Examiner?

A No, sir.

MR. CHRISTY: I believe that's all from this witness.

MR. UTZ: Are there questions?

MR. PAYNE: No questions.

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: The last witness is Mr. Hoy, please.

GEORGE R. HOY

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, address and occupation?

A George R. Hoy, Midland, Texas. I am employed by Honolulu Oil Corporation as Division Drilling and Proration Engineer.

Q Have you previously testified before the New Mexico Oil Conservation Commission as a geologist and had your qualifications accepted?



A Yes, sir, I have.

Q Are you familiar with the matters contained in this application, being Case No. 1925, before the Commission?

A Yes, sir.

Q Are you familiar with the lands involved in the application, the wells within the vicinity of the proposed unit area, and the general geological information in this area?

A Yes, sir.

MR. CHRISTY: Does the Examiner have any questions concerning the witness' qualifications?

MR. UTZ: No, sir, he's qualified.

Q Now, Mr. Hoy, I refer you to what has been marked Exhibit 4 and ask you to please identify and explain it to the Examiner.

A Exhibit 4 is a stratographic section of what we expect will be encountered in the initial test well within the unit. The stratographic section depicted in the exhibit is substantially the same as that found in the British American well to the Northeast of the unit area, except that we anticipate encountering the top of the Devonian in the initial test well at approximately 100 feet high to the point it was encountered in the British American well.

Q Mr. Hoy, I believe it was previously mentioned in Mr. Johnson's testimony that someone had prepared a contour map of the unit area projected down to the Devonian.

A Yes, sir.



Q Has that been marked as an exhibit?

A That has been marked as Exhibit No. 5.

Q Would you please explain that exhibit to the Examiner?

A As Mr. Johnson has previously testified, there has been no seismic information to the Devonian, so it has been necessary for me, in preparing Exhibit 5, to utilize the information from Exhibits 2 and 3 and to project this information to the Devonian in order to show the geological information and what we believe will be the possible Devonian producing area.

Q Now, Mr. Hoy, I call your attention to the closing contour line on Exhibit 5 of 6400 feet. Is that approximately the same closing contour line as the 5800 foot mark on Exhibit 3?

A Yes, sir, it is.

Q So that this closing contour with the fault shown again on Exhibit 5 that appears to encompass all of the geological high as projected to the Devonian?

A Yes, sir.

Q Within the unit area? A Yes, sir.

Q Now, Mr. Hoy, as a geologist, do you believe that the granting of this application will permit the productive area to be developed and operated in the interest of conservation, the prevention of waste and the protection of correlative rights of the various interested parties?

A Yes, sir, I do.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-5691

ALBUQUERQUE, NEW MEXICO



Q Do you believe that in the event oil or gas is found within the unit area that the approval of the unit agreement will permit a more economic and efficient recovery of the maximum oil or gas substances within the unitized pool?

A Yes, sir.

Q Mr. Hoy, I assume that you realize that if the Commission should grant this application that Honolulu will nevertheless have to comply with the other rules of the Commission with respect to filing notices, forms and et cetera?

A Yes, we recognize this and they will be complied with.

Q With reference to the initial test well, explain the proposed casing program.

A The proposed is a surface string of 13 3/8 to a depth of 350 feet and cemented from top to bottom in the annulus, string of 8 3/8 to 4,000 feet and string of 5 1/2 through the Devonian if production is found.

Q Were Exhibits 4 and 5 prepared by you or under your direction and supervision?

A Yes, sir.

Q I believe Exhibit 1 is the map shown in the unit agreement, is that correct?

A Yes, sir, that is correct.

Q And Exhibit 6 is the unit agreement itself?

A Yes, sir.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



MR. CHRISTY: I believe that's all from this witness.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Hoy, were you going to cement the 8 5/8 at the 4,000 feet?

A Yes, we plan on 500 sacks of cement for the 8 5/8.

Q How many sacks?

A 500. We planned to cover the Queen and San Andres formations.

MR. UTZ: Are there other questions of the witness?

If not, he may be excused.

(Witness excused.)

MR. CHRISTY: We would like to offer in evidence Applicant's Exhibits 1 to 6 inclusive.

MR. UTZ: Without objection the Exhibits 1 through 6 will be entered into the record.

MR. CHRISTY: We would like to make one other statement if there are no other statements in the case.

MR. UTZ: Are there other statements in this case? If not, you may proceed.

MR. CHRISTY: We would like to withdraw Exhibits 2 to 5 inclusive from the case and have them treated as confidential, and I will write the Commission as soon as we consider them not confidential again, probably two or three months, and ask that they be



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 23, 1960
EXAMINER HEARING

PHONE CH 3-6691

DEARNLEY-MEIER REPORTING SERVICE, Inc.

ALBUQUERQUE, NEW MEXICO

IN THE MATTER OF:)

Application of Honolulu Oil Corporation)
for approval of a unit agreement. Ap-)
plicant, in the above-styled cause,)
seeks approval of its North Mullis Unit)
Agreement, which unit will embrace ap-)
proximately 1922 acres of State, Fed-)
eral and fee land in Townships 14 and)
15 South, Range 29 East, Chaves County,)
New Mexico.)

Case 1925

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order. Case 1925.

MR. PAYNE: "Case 1925. Application of Honolulu Oil Corporation for approval of a unit agreement."

MR. CHRISTY:: Sim Christy,, Hervey, Dow and Hinkle, for the applicant, Honolulu Oil Corporation. We apologize for the lateness in submitting the unit agreement. It is hot off the press, so-to-speak, from San Francisco last Saturday and just arrived in Santa Fe yesterday. My understanding, it is a typical Federal-State unit. We have three short witnesses.

(Witnesses sworn.)



I N D E X

<u>WITNESS</u>	<u>PAGE</u>
LEO BRADY	
Direct Examination by Mr. Christy	2
Cross Examination by Mr. Payne	8
Redirect Examination by Mr. Christy	10
L. H. JOHNSON	
Direct Examination by Mr. Christy	11
GEORGE R. HOY	
Direct Examination by Mr. Christy	15
Cross Examination by Mr. Utz	19



LEO BRADY

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, address and occupation?

A Leo Brady, Drawer 1391, Midland, Texas.

Q By whom are you employed and in what capacity?

A Honolulu Oil Corporation as Division Land Man, Mid-Continent Division.

Q Are you familiar with the matters contained in this application, being Case No. 1925, before the Commission?

A Yes, sir.

Q Are you familiar with the area covered by the proposed unit agreement?

A Yes, sir.

Q Would you please tell the Examiner the unit area covered by the agreement?

A The unit area embraces all Sections 33, 34, Township 14 South, Range 29 East and the North half of Sections 3 and 4, Township 15 South, Range 29 East, Chaves County, New Mexico. These lands total 1921.92 acres.

Q Are the lands owned by the United States, the State of New Mexico or private individuals? If there is any variation



will you give us the acreage owned by each?

A The lands covered by the proposed unit area consist of 141.92 acres of land, owned by the United States of America; 370 acres of land owned by the State of New Mexico, and 320 owned by private individuals.

Q Who is designated as the unit operator under the agreement?

A Honolulu Oil Corporation, whose address is Box 1391, Midland, Texas.

Q What's the purpose of the unit agreement?

A The unit agreement provides for the drilling of an exploratory well to test the Devonian formation, which is expected to be encountered at approximately 10,200 feet.

Q Has the drillsite been chosen yet?

A A tentative drillsite has been selected in the Northeast Quarter of the Southeast Quarter of Section 33, Township 14 South, Range 29 East.

Q Are you familiar with unit agreements for exploratory purposes that have previously been approved by the Director of the United States Geological Survey, the Commissioner of Public Lands of the State of New Mexico, and this Commission?

A Yes, sir.

Q Is this unit agreement in substantially the same form and tenor as those previously approved by the Director, the

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



Commissioner and the Commission?

A Yes, the unit agreement involved in this application is substantially the standard Federal form of unit agreement, modified to include provisions with respect to State land, and the form of this unit agreement is in general use by the oil industry in the State of New Mexico.

Q Has the unit agreement been submitted to the Commissioner for approval and, if so, has such approval been obtained?

A The final draft was just completed the other day and this morning we did submit to the Commissioner the form of the unit agreement. Previously, and by our letter of February 26, 1960, we advised the Commissioner of the proposed unit agreement. We would anticipate that we will shortly obtain from the Commissioner the approval of the unit agreement as to form and content.

Q Has the unit agreement been submitted to the office of the Geological Survey for approval, and if so, has such approval been obtained?

A As I mentioned a moment ago, the unit agreement itself has just been completed. However, we did advise the Geological Survey of the proposed unit by letter of February 26, 1960, and various employees of Honolulu Oil Corporation have had three or four conferences with the Geological Survey staff in Roswell, New Mexico. I understand that requests for unit area designation has been forwarded from the Survey's Roswell office to Washington,

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



D. C., and we hope that the unit area will be approved by the Director in the immediate future. Also I might mention that copies of the form of the unit agreement will be submitted to the United States Geological Survey at Roswell, New Mexico tomorrow morning.

Q Have you obtained commitments or ratifications of the unit agreement by the working interest owners and royalty owners; if you have obtained any, tell us the percent of these?

A The unit agreements are in the process of being mailed out to the various interested parties. However, we have informal approval of the basic unit agreement, substantially 100% of the working interest owners. I am not certain whether or not the fee royalty owner has been contacted as this tract is owned by Gulf. However, and as I mentioned previously, the royalty interests of both the Federal and State lands have been contacted. I don't believe that any of the overriding royalty owners, and there are only a few of them, have yet been contacted. This, of course, will be the job of the interested working owner. I might also mention that there have been several working interest owners meetings, and based on these and other comments, we presently anticipate 100% commitment by the working interest owners and at least 95% commitment by the royalty interest owners. This, of course, assumes ultimate approval by the Federal and State government.

Q What is the effective date of the unit?

A Under Section 20 the unit agreement is effective as of

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



the date of approval by the Director.

Q Does the unit agreement provide for a plan of further development?

A Yes, sir, it contains the typical plan for further development which is provided in Section 10.

Q What is the term of the unit?

A The term is for a period of five years, and as long thereafter as unitized substances can be produced in paying quantities.

Q Now, Mr. Brady, under that if this unit agreement is approved by the Commission that Honolulu must furnish the Commission a fully executed copy thereof after the final approval, which would include any of the ratification and approval of other people?

A Yes, sir, we understand this, and such material will be furnished to the Commission.

Q I believe you previously mentioned that you were in charge of the Land Office of the Honolulu?

A Land Department, yes, sir, for the lands involved in this application.

Q Well, as head of the Land Department, have you caused the various Federal and State records to be examined with respect to the unit area and the ownership thereof?

A Yes, sir, my office has checked into this, the Federal



and State records in Santa Fe, New Mexico, and the information relative to the ownership of the fee lands was obtained from the lessees owning leases covering such fee lands.

Q Based upon this examination and the material that was furnished to you, does Exhibit B of the unit agreement faithfully reflect the ownership of the various tracts as disclosed from such examination and information?

A Yes, sir.

Q Mr. Brady, I believe yesterday you mentioned to me there was some urgency in connection with this application. Would you elaborate on that to the Examiner, please?

A Yes, sir, there is considerable urgency in this matter. There are two Federal leases which expire June the 30th, 1960, one of which covers the North Half of the Southwest Quarter and the Southeast of the Southwest Quarter of Section 33. And the other covers the Southwest Quarter of the Southwest Quarter of Section 33 in Township 14 South, Range 29 East.

Unless we can obtain production in the initial test well before that date the lease on these lands will expire. In view of the drilling history in this area we anticipate that it will take some eighty-five to ninety days to drill and complete the initial test well to the Devonian formation, and this means that the initial test well must be commenced on or about April 1st, 1960. Thus, there is extreme urgency in this matter, and we would



appreciate the Commission's earliest consideration of this application.

I might state further that we apologize for the delay in presenting the application to the Commission, but it was in only very recent weeks that substantial agreement was obtained among the working interest owners and it was immediately after this that we filed the application in this case. I believe the application in this case was filed February 26, 1960.

Q Mr. Brady, do you have anything else to offer on this case from the land standpoint?

A No.

MR. CHRISTY: I might state that the subsequent witnesses will take up the geophysical and the geological portion. That's all from this witness. Excuse me.

MR. UTZ: Questions?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q What is your participation formula?

A This is what is known as an undivided type unit wherein all the working interest owners share in the costs in proportion to their ownership.

Q It's a fully participating unit?

A As to the working interest?



Q Yes. A Yes, sir.

Q And so it's actually based just on the straight acreage basis?

A Yes, sir.

Q Does this unit agreement contain a provision for expansion or contraction?

A Yes, sir, on Page 2, Section 2.

Q Yes, sir. Are there any wells drilled to any other horizon within the confines of this proposed unit?

A Within the unit area?

Q Yes.

A No, sir. I do not believe there have been in the unit area.

Q Mr. Brady, as a land man for Honolulu, what position do you take as to the leases which have been executed at Honolulu, part of the acreage which is included in the unit and part of which is not? I'll put it this way, do you take the position that discovery and production within the unit area perpetuates the balance of the lease which is not in the unit area?

A You speaking of Federal, State or fee ownership lease?

Q Well, generally any lease, and in particular State.

A Yes, sir, I believe it would perpetuate it. It would depend upon the provisions of the individual lease.

Q You don't feel that the acreage which is outside the

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



unit but part of the lease would expire at the end of the primary term even though no well had been drilled on such acreage outside the unit area?

A No. I believe acreage, or a well, producing well on the leased land would perpetuate the leased land.

Q Yes, sir. Now, what I'm getting at is say the discovery well, the producing well is not --

A Oh, on?

Q -- not on the lease, that particular lease?

A Oh, that's a different proposition. I do not believe it would.

MR. PAYNE: Thank you. That's all.

MR. UTZ: Are there other questions?

MR. CHRISTY:: I have one question.

REDIRECT EXAMINATION

BY MR. CHRISTY::

Q I assume your last response to the question by Mr. Payne, you would defer to the Legal Department, would you not?

A Yes, he asked my opinion.

MR. PAYNE: In his capacity as a land man, Mr. Christy..

MR. CHRISTY:: Not as a lawyer. That's all from this witness.

MR. UTZ: Any other questions? The witness may be excused.

(Witness excused.)



MR. CHRISTY: Mr. Johnson, please.

L. H. JOHNSON

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, address and occupation?

A Yes, sir. L. H. Johnson, Drawer 1391, Midland, Texas.

I am a seismologist.

Q By whom are you employed and in what capacity?

A I'm employed by the Honolulu Oil Corporation as the Mid-Continent Division seismologist.

Q Have you previously testified before this Commission as a geophysicist or seismologist?

A No, sir.

Q Would you briefly state to the Examiner the schools of higher learning you have attended, the date and degrees you have received?

A I was graduated from Colorado School of Mines in 1937 with a Geological Engineering Degree and geophysical option.

Q Since your graduation by whom have you been employed and in what capacity and area?

A From 1937 to 1946 I was employed by the Phillips Petroleum Company mainly as a party chief of the seismograph crew in the

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



Mid-Continent area, and from 1946 to date I have been employed by the Honolulu Oil Corporation as a seismologist and mainly as a division seismologist in West Texas, New Mexico, the Four Corners area and in other parts of the Mid-Continent area.

Q Are you familiar with the matters contained in this application, being Case No. 1925, before the Commission?

A Yes, sir.

Q Are you familiar with the land involved in the application as well as the land immediately surrounding it and the wells in the general vicinity?

A Yes, sir. I might also mention that the only well of any importance in the general area is the British American Hondo well in the Northwest Quarter of the Northeast Quarter of Section 27, Township 14 South, Range 29 East. This is a Devonian well and the top of the pay is at 10,222 feet.

MR. CHRISTY: Are the witness's qualifications acceptable, Mr. Examiner?

MR. UTZ: Yes, sir.

Q Do you have a contour map of this proposed unit area, Mr. Johnson?

A Yes, I have two. The first one is marked Exhibit 2 and is a seismic map contoured on the Mississippian with the measurements shown in time. The second is marked Exhibit 3 and it is likewise a seismic map contoured on the Mississippian with the



measurements shown in depth.

Q Now, Mr. Johnson, Mr. Brady just testified that this unit was for a Devonian test. Why are these exhibits drawn to the Mississippian?

A The reflection data can be mapped at the Mississippian but it can not be mapped at the Devonian.

Q Is there a map similar to Exhibits 2 and 3 with the geological information projected to the Devonian?

A Yes, sir, the next witness will show this map.

Q Will you briefly explain to the Examiner what is depicted by Exhibits 2 and 3?

A Yes, sir, Exhibit 2 is a seismic map in time and Exhibit 3 is a seismic map in depth. Actually we measure time in seismic surveying, but for clarity the time has been converted to depth, and I believe it would be simpler to utilize Exhibit 3 to answer your question. Exhibit 3 is a seismic map of the subsurface at the Mississippian horizon, which is at a depth of 9600 feet plus or minus below the surface or about 5800 feet below sea level.

The map has a contour interval of 50 feet and the scale of two inches equals one mile. On the map the proposed unit area is outlined by the heavy line. The small circles are shot points where the data is recorded. These show the control used in the preparation of the map. You'll please note the geophysical high in Sections 33 and 34, Township 14 South, Range 29 East, et cetera,



with its apex at the minus 5700 foot contour and near the Southeast corner of the Section 33.

The closing contour of the map is at minus 5800 feet and generally outlines the proposed unit. Closure to the Southwest is afforded by the fault which has been interpreted to have a displacement of 400 feet down to the Southwest.

Q So, as I understand you, Mr. Johnson, this unit area proposed in this application includes all or substantially all of the geophysical high within this closing contour of 5800 feet?

A Yes, sir. If you followed the line shown in Exhibit 3 at 5800, you'll note that the unit area encompasses substantially all of the geophysical high within this closing contour and, of course, it is bounded on the Southwest by the fault that I have mentioned previously.

Q Mr. Johnson, from geophysical information that's available, do you believe that the boundaries of the unit encompass a sufficient area to assure adequate control of the structure?

A Yes, sir.

Q I believe Exhibits 2 and 3 indicate that the present proposed location of the initial test well will be approximately on this structural high?

A Yes, sir, that is correct. I might also state that from the information available it would appear that the Devonian pay in the proposed well will be encountered approximately a hundred

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



feet high to the Devonian pay in the British American well.

Q Were Exhibits 2 and 3 prepared by you or under your direction and supervision?

A Yes, sir.

Q Do you have anything else to add to your testimony that might be of interest or information to the Examiner?

A No, sir.

MR. CHRISTY:: I believe that's all from this witness.

MR. UTZ: Are there questions?

MR. PAYNE: No questions.

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: The last witness is Mr. Hoy, please.

GEORGE R. HOY

called as a witness, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY::

Q Would you please state your name, address and occupation?

A George R. Hoy, Midland, Texas. I am employed by Honolulu Oil Corporation as Division Drilling and Proration Engineer.

Q Have you previously testified before the New Mexico Oil Conservation Commission as a geologist and had your qualifications accepted?

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



A Yes, sir, I have.

Q Are you familiar with the matters contained in this application, being Case No. 1925, before the Commission?

A Yes, sir.

Q Are you familiar with the lands involved in the application, the wells within the vicinity of the proposed unit area, and the general geological information in this area?

A Yes, sir.

MR. CHRISTY: Does the Examiner have any questions concerning the witness' qualifications?

MR. UTZ: No, sir, he's qualified.

Q Now, Mr. Hoy, I refer you to what has been marked Exhibit 4 and ask you to please identify and explain it to the Examiner.

A Exhibit 4 is a stratographic section of what we expect will be encountered in the initial test well within the unit. The stratographic section depicted in the exhibit is substantially the same as that found in the British American well to the Northeast of the unit area, except that we anticipate encountering the top of the Devonian in the initial test well at approximately 100 feet high to the point it was encountered in the British American well.

Q Mr. Hoy, I believe it was previously mentioned in Mr. Johnson's testimony that someone had prepared a contour map of the unit area projected down to the Devonian.

A Yes, sir.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



Q Has that been marked as an exhibit?

A That has been marked as Exhibit No. 5.

Q Would you please explain that exhibit to the Examiner?

A As Mr. Johnson has previously testified, there has been no seismic information to the Devonian, so it has been necessary for me, in preparing Exhibit 5, to utilize the information from Exhibits 2 and 3 and to project this information to the Devonian in order to show the geological information and what we believe will be the possible Devonian producing area.

Q Now, Mr. Hoy, I call your attention to the closing contour line on Exhibit 5 of 6400 feet. Is that approximately the same closing contour line as the 5800 foot mark on Exhibit 3?

A Yes, sir, it is.

Q So that this closing contour with the fault shown again on Exhibit 5 that appears to encompass all of the geological high as projected to the Devonian?

A Yes, sir.

Q Within the unit area? A Yes, sir.

Q Now, Mr. Hoy, as a geologist, do you believe that the granting of this application will permit the productive area to be developed and operated in the interest of conservation, the prevention of waste and the protection of correlative rights of the various interested parties?

A Yes, sir, I do.



Q Do you believe that in the event oil or gas is found within the unit area that the approval of the unit agreement will permit a more economic and efficient recovery of the maximum oil or gas substances within the unitized pool?

A Yes, sir.

Q Mr. Hoy, I assume that you realize that if the Commission should grant this application that Honolulu will nevertheless have to comply with the other rules of the Commission with respect to filing notices, forms and et cetera?

A Yes, we recognize this and they will be complied with.

Q With reference to the initial test well, explain the proposed casing program.

A The proposed is a surface string of 13 3/8 to a depth of 350 feet and cemented from top to bottom in the annulus, string of 8 3/8 to 4,000 feet and string of 5 1/2 through the Devonian if production is found.

Q Were Exhibits 4 and 5 prepared by you or under your direction and supervision?

A Yes, sir.

Q I believe Exhibit 1 is the map shown in the unit agreement, is that correct?

A Yes, sir, that is correct.

Q And Exhibit 6 is the unit agreement itself?

A Yes, sir.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



MR. CHRISTY:: I believe that's all from this witness.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Hoy, were you going to cement the 8 5/8 at the 4,000 feet?

A Yes, we plan on 500 sacks of cement for the 8 5/8.

Q How many sacks?

A 500. We planned to cover the Queen and San Andres formations.

MR. UTZ: Are there other questions of the witness? If not, he may be excused.

(Witness excused.)

MR. CHRISTY:: We would like to offer in evidence Applicant's Exhibits 1 to 6 inclusive.

MR. UTZ: Without objection the Exhibits 1 through 6 will be entered into the record.

MR. CHRISTY:: We would like to make one other statement if there are no other statements in the case.

MR. UTZ: Are there other statements in this case? If not, you may proceed.

MR. CHRISTY:: We would like to withdraw Exhibits 2 to 5 inclusive from the case and have them treated as confidential, and I will write the Commission as soon as we consider them not confidential again, probably two or three months, and ask that they be



