BEFORE THE

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

TRANSCRIPT OF HEARING

December 20, 1951

Case No. 331

E. E. GREESON
ADA DEARNLEY
COURT REPORTERS
BOX 1303
PHONES 5-9422 AND 5-9546
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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IN RE:

By which the Oil Commission, on its own motion, asks for an order for the extension of existing pools, consolidation of existing pools, or the creation of new pools in Lea and Rio Arriba Counties, New Mexico.	))))))	Case 331

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TRANSCRIPT OF HEARING

December 20, 1951

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(Mr. Kellahin reads the notice of publication.)

R. S. BLYMN,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. WHITE:

Q Mr. Blymn, will you please state your full name and position for the record.

A R. S. Blymn, Engineer, Oil Conservation Commission.

Q In your capacity as an Engineer for the Oil

Conservation Commission have you had occasion to make a study of proposed extensions of existing pools as suggested in Case No. 331?

A Yes.

Q Will you give a report of your studies as to the matter pertaining to the Hare Pool in Lea County?

A Section A of Case 331, a request for extension of the Hare Pool, it appears at this time for the best interest of the operators involved in the area which we serve that no extension of the Hare Pool be made. If anybody feels it necessary I can go into the reason for that, but there is conflict of interest in that area down there that cannot be dissolved at the present time; pending a statement from somebody, from some operator in the area, I recommend that the Hare Pool not be extended at the present time.

Q Is it possible that additional information that might have some bearing on the case be at hand at a later date?

A Yes, it will be.

Q Now what are the results of your study as to the Bagley-Siluro Devonian Pool - just a moment let's mark that Exhibit No. 1.

A That is the present Hare Pool boundaries and the proposed extension.

MR. WHITE: We ask that be admitted in evidence.

MR. SPURRIER: Without objection it will be admitted.

Q Now you may proceed with the Bagley.

A In regard to the Bagley-Siluro Devonian, Section D of Case 331, it has been requested that the northeast quarter of Section 34 and the northwest quarter of the south half of the the northeast quarter of Section 35 be included in the Bagley-Siluro Devonian; and we know of no reason why it should not be included, and recommend that the extension be made as proposed. I have prepared a plat showing the Bagley-Siluro Devonian in the proposed extension.

Q Will you mark that as the Commission's Exhibit 2 and we ask that be admitted in evidence?

MR. SPURRIER: Without objection it will be admitted.

Q Mr. Blymn, will you proceed and give the results of your studies as to the Warren-McKee Pool?

A Section C, Case 331, the proposed extension of the Warren-McKee Pool. We recommend that the extension be made as proposed. It won't be necessary to - that proposed extension is in the advertisement there. And appears on this prepared plat. It won't be necessary for me to state those, will it?

Q Unless someone wants to make inquiry.

A The proposed extension is the south half of Section 20, Township 20S, Range 38E and I recommend that

proposed extension be made as applied for.

MR. WHITE: Do you wish that to be entered in evidence?

A Yes.

MR. WHITE: I would like to have it marked Commission's Exhibit No. 3 and ask that it be admitted. What are your results made in your studies of oil as to the Rio Arriba extension?

A That is out of our district and I haven't had occasion to study Rio Arriba at all.

(Off the record)

Q On whose recommendation was that request, do you know?

A Kingsley-Locke made the request on a Form C-123.

(Off the record)

MR. SPURRIER: Without objection, this paragraph of Case 331 will be continued at our January hearing. We have in Stanolind's application of last Wednesday, I believe Case 330, a request for another extension of the same pool. So I think we should continue the thing and consolidate the separate requests.

MR. WHITE: I think for the benefit of the record we should read the extension.

MR. SPURRIER: The paragraph which will be continued is Paragraph D of Case 331 to extend the Blanco-Mesaverde

Pool, Rio Arriba County, New Mexico, to include all of Sections 5, 6, 7 and 8, Township 26N, Range 7W, NMPM. Without objection - to the introduction of Exhibit No. 3 - without objection it will be received.

MR. WHITE: Thank you, Mr. Blymn.

MR. SPURRIER: Does anyone have a question of this witness? If not the witness may be excused. Does anyone have a further comment in the case? If not we will proceed to the final case for today, Case No. 332.

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

I HEREBY CERTIFY that the foregoing and attahced transcript of proceedings in Case No. 331, before the Oil Conservation Commission at Santa Fe, is a true and correct record of the same to the best of my knowledge skill and ability.

DATED at Albuquerque, New Mexico, this 21 day of January, 1952.

REPORTER

BEFORE THE

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

TRANSCRIPT OF HEARING

CASE NOS. 331 and 338

FEBRUARY 21, 1952 at
Santa Fe, New Mexico

E. E. GREESON
ADA DEARNLEY
COURT REPORTERS
BOX 1302
PHONES 5-9422 AND 5-9546
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

Santa Fe, New Mexico
February 21, 1952

In the matter of:

Consolidated Cases Case Nos. 331 and 338

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TRANSCRIPT OF PROCEEDINGS

MR. SPURRIER: Mr. Girand, are you ready to proceed with your testimony?

MR. GIRAND: If the Commission please, I would like to show W. D. Girand, Jr. representing the Fullerton Oil Company in Case 338. 331 is the case of Continental Oil Company, and in view of statements I have learned this morning, I am of the opinion that there is no conflict in the two applications which brought about these consolidations. I believe now that the proper procedure would be for Continental to proceed with their application in light of the statement just made to me by the representative of the Continental Oil.

MR. SPURRIER: Mr. Colliston, do you have any

statement to make?

MR. COLLISTON: Paul M. Colliston and Homer Dailey for Continental Oil Company. I would like to have Mr. Dailey sworn as a witness. Under Paragraph A I believe in Case 331 the Commission called Section 10, parts of Section 3 and parts of Section 2, Township 21 South, Range 37 East to be considered as extentions of the Hare Pool. Continental Oil Company has leases in Section 10 and in Section 3, Township 21 South, Range 37 East.

We wish to offer evidence to support our request that the field be extended to cover our acreage in Section 10 and our acreage in Section 3. Continental Oil has no acreage in Section 2 of that call and does not propose to offer any testimony to cover the extentions of the Hare Pool in that Section. The acreage in that Section is held by Gulf and by Shell.

MR. GIRAND: If the Commission please, in that connection the Fullerton Oil Company files an application for a field designation covering portions of Section 1, Section 2 and Section 12. The conflicts between the Continental application and the Fullerton application being entirely in Section 2. In the light of the announcement made by the Continental Oil Company there is no conflicts between the two applications unless some of the other companies involved, the Shell or the

Gulf, desire to prosecute on the basis of Section 2. We are put in this position of not knowing whether or not to intervene in this matter without knowing whether or not testimony will be offered in regard to Section 2. We would like to have some announcement to be made as to whether or not there would be any prosecution of that portion of the application.

MR. SPURRIER: In other words, you may have a case to present depending on what Shell or some other company may -

MR. GIRAND: (Interrupting) That is right.

MR. SPURRIER: Is there anyone from Shell who intends to testify?

MR. SCOTT: W. H. Scott, Shell Oil Company.

MR. SPURRIER: Are you through?

MR. COLLISTON: No, I would like to put on our testimony.

MR. SCOTT: I would just like to make a statement in answer to your question. We desire to present no testimony. We may make a statement but it will not be made in the direct testimony.

MR. SPURRIER: All right. We will proceed with Mr. Dailey's testimony.

HOMER DAILEY,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. COLLISTON:

Q Mr. Dailey, will you state your name?

A Homer Dailey.

Q By whom are you employed?

A Continental Oil Company.

Q In what capacity?

A Division Engineer in Texas.

Q The Hare Pool is within your area of responsibility?

A That is correct.

Q You are familiar with conditions in that Pool?

A That is right.

Q And you have studied them?

A That is right.

MR. COLLISTON: Mr. Dailey has testified before this Commission previously. Are there any questions on his qualifications?

MR. SPURRIER: His qualifications are accepted.

Q (By MR. COLLISTON) Mr. Dailey, insofar as Continental's application to include the Hawk B-3 lease and their Hawk B-10 lease in Section 3 and 10, Township 21 South, 37 East in the Hare Pool, have you studied the relation of these two leases to the Hare Pool as it now exists?

A I have.

Q As a result of your study, is it your recommendation to the Commission that the limits of the Hare Pool should be extended to include Continental leases in Section 10 and in Section 3?

A That is right.

Q In support --

A (Interrupting) In order to do so it would, of course, be necessary to include the Humble State lease in the south half of Section 10.

Q Which lies between Continental's leases and the Hare Pool proper?

A That is right.

Q But nevertheless it is your recommendation that the limits of the Hare Pool should be extended to include the Continental leases in Section 10 and in Section 3?

A That is correct.

Q In support of that statement, have you prepared a structure map showing the relation of the leases in question to the Hare Pool?

A I have.

MR. COLLISTON: I would like to introduce that as Continental Exhibit No. 1.

(Marked structure map Exhibit 1,for identification.)

MR. SPURRIER: Without objection it will be received.

A The map -

Q (Interrupting) Would you explain that briefly to the Commission?

A (Continuing) The map is contoured on top of the McKee pay horizon. The wells shown are only the pre-permian the number of the Drinkard wells in there which are not shown. The wells shown with the red circle around them are those producing from the Simpson.

Q Your testimony is to be limited strictly to the conditions as they apply to the Continental leases and to no other leases?

A That is correct.

Q Except the Humble lease that lies in between as you mentioned.

A Which lies in between.

Q Have you also prepared a cross section showing the geographical continuity of the Hare Field to the Continental leases in question?

A It shows the continuity of the McKee pay.

MR. COLLISTON: I would like to introduce that as Continental's Exhibit.

(Cross section marked as Exhibit 2, for identification.)

MR. SPURRIER: Without objection it will be received.

Q (By MR. COLLISTON) Again your testimony on this

cross section is to be applied only as to Continental leases involved?

A That is correct.

MR. COLLISTON: That is all we have.

MR. SPURRIER: Is there any question of this witness?

MR. GIRAND: I think we had better look at the map. As I understand the Exhibits they will only be considered insofar as they reflect the facts on the Continental leases in Section 10 and 3.

MR. COLLISTON: I asked the witness specifically in each of those Exhibits.

MR. GIRAND: We have no objection.

MR. COLLISTON: It is Continental's recommendation to the Commission that the Hare Pool be extended to cover the Continental leases in Section 3 and Section 10.

MR. WHITE: May I ask one question?

MR. SPURRIER: Yes.

MR. WHITE: Will you explain what Exhibit B is, what it is proposed to show?

A It merely shows the continuity of the McKee pay horizon.

MR. SPURRIER: By what type of diagram, Mr. Dailey?

A It is either electrical or radio activity logs. The wells with only the two curves on them are radio activity logs while those with the third curve in there are electrical logs.

We have marked down there the top of the McKee horizon across there, and this one area between the Humble State, excuse me, State "V" No. 7 and the Shell State No. 6 the top of the McKee is eroded and you go directly from the pre-permian into the McKee. There is one possible exception in that.

MR. SPURRIER: Does anyone have a further question?

MR. GIRAND: In regard to Exhibit No. 1 you show no faulting between the well No. 6 in the Shell lease and the Well 6-E, was that line that you have drawn there on that Exhibit based on data that you had?

MR. COLLISTON: That line on there is a trace of a cross section on the map.

A That line is a trace of the cross section.

MR. GIRAND: Trace of the cross section?

A Yes.

MR. GIRAND: Your contour lines as they go into Section 2 and down into 1 and down into 12, are they based on particular data?

A We had studied -

MR. COLLISTON: (Interrupting) We stipulated that we were making no interpretation of the structure along that line there.

MR. GIRAND: Rather than have the Commission get the wrong impression, because the exhibit we propose to offer

conflicts considerably with what you have here, the real interest that you had Mr. Dailey, in preparing the map was all, was based on the data you obtained in regard to Section 3 and Section 10 only?

A We had copies of the surveys on the wells in Section 2, 1 and 2 at the time. While our primary interest was in this area to the West, we did continue our contours on over that side and it was possible there are several possible interpretations in this, from here on over -

MR. GIRAND: You are not presenting any interpretations to the Commission?

A This was the simplest way of contrast.

MR. GIRAND: I see.

MR. WHITE: Is it your opinion that the proposed extention will be in the same common source of supply as the present existing boundaries of the Pool?

A The extention that we are testifying to in Section 3 and 10, the evidence that we have would indicate that it is.

MR. MACEY: Let me see that. The present boundary is the North half of Section 10, is that right?

A The present boundary is the North line of Section 15.

MR. SPURRIER: Any further questions of this witness?

MR. GIRAND: Did you make any check or comparison as to the water level as to the wells over on Section 3 and 10 in

the Simpson as against the Gulf well in Section 2 and the Fullerton well in Section 1?

A I did not. Like I say, we were not particularly interested beyond Section 3. It appeared to be a continuous formation up through, from Section 15 up through Section 3.

MR. GIRAND: Do you know of any place within the Hare Pool as it now exists where there is as steep a dip as there exists between Section 3 and Section 1 wells?

A I can't remember right off-hand.

MR. GIRAND: You are acquainted with the fact that the Fullerton No. 2 wells were dry and some 551 feet lower than the No. 1 Well?

A I had heard that after this was prepared.

MR. GIRAND: That information is not reflected on the map that you have there?

A No, it is not.

MR. GIRAND: Your map was prepared prior to the time the No. 2 Well was drilled?

A It was being drilled at the time.

MR. GIRAND: I think that is all.

MR. SPURRIER: Any further questions of this witness? If not the witness will be excused.

MR. SCOTT: W. A. Scott, representing Shell Oil Company, Hobbs, New Mexico, after listening to Mr. Dailey's testimony

and after looking at his Exhibits, Shell wishes to concur and support their case with regards to the extension of the Hare Pool to include the proposed boundaries as set up.

MR. SPURRIER: Is there anyone else here who has a comment in this case? Mr. Dailey will you resume the stand again?

Homer Dailey, resumed the stand, having been previously duly sworn, testified further as follows:

Q (By MR. MACEY) Is it your intention or your request that the boundaries include all of Section 3? I noticed that you have stated that you wanted it to include all of your leases. You have some leases on the North line.

A Well the application requested, let me think, I have to think on this.

MR. SPURRIER: That is all right, take your time.

A The South-east and the South-west quarters in Section 3 plus Lots 14, 15 and 16. That would of course omit that piece of acreage in the northern portion of Section 3.

MR. GIRAND: You don't happen to have a map showing the lots outlined down there, do you?

A No, I don't.

MR. COLLISTON: That is set forth in the application, is it not, Mr. Dailey? Exactly the acreage in Section 3 and exactly the acreage in Section 10 that we want to have?

A It is stated as Section 10, the southwest quarter of Section 3, Lots 14, 15 and 16.

MR. MACEY: That is all I have.

MR. SPURRIER: Is there anything or does anyone else wish to be heard? Mr. Girand, does Fullerton have any recommendations beyond what you have given?

MR. GIRAND: If the Commission please, we are not involved in that area.

MR. SPURRIER: Case 331 is the case.

MR. GIRAND: Only that the Commission should consider the application as modified by the application of the applicant to include Section 10 and that portion of Section 3. There being no evidence before the Commission in regard to Section 2.

MR. SPURRIER: Do you have a comment in 338 where the Terry Pool was advertised?

MR. GIRAND: Yes. We would like to offer some proof although we think that the boundaries as set up by the Commission in 338 should be changed and more or less comply with the boundaries made in the application in the Fullerton Oil Company.

MR. SPURRIER: Very well. Is there any further comment in 331?

MR. SCOTT: I would like to ask a question in regard to Mr. Girand's statement. We would like to know if we

could what Fullertons proposed boundaries were.

MR. GIRAND: The proposed boundaries of the Fullerton were the northwest quarter of 12, the southwest quarter of 1, the lots in 1 there immediately above the southwest quarter 13 and 14, the northeast quarter of 2.

MR. SCOTT: The northeast quarter of 2?

MR. GIRAND: I beg your pardon, the southeast quarter of 2.

MR. SCOTT: The southeast quarter of 2.

MR. GIRAND: The northeast of the southwest of 2 and fractional lots.

MR. SCOTT: That was the northeast quarter of the southwest quarter of 2?

MR. GIRAND: Right and fractional lots, that would be 14, 15 and 16.

MR. SCOTT: Maybe I had better just look at this.

(Discussion off the record.)

MR. GIRAND: The application of the Commission was a four section designation of Lots 1, 11 and 12.

MR. MACEY: You mean Section 1, 2, 11 and 12?

MR. GIRAND: Section 1, 2, 11 and 12.

MR. SPURRIER: Any further comment?

MR. GRAHAM: May I ask Mr. Girand a question to clear up a plat that Bob has prepared. What is the significance of

the extension up into the next Township?

MR. GIRAND: It doesn't extend into the next Township.

MR. GRAHAM: These are the lots, is that right?

MR. GIRAND: This is a cross section Township line in which there is some 60 lots to the section.

MR. GRAHAM: That is a long section in other words?

MR. GIRAND: Yes, sir, so it does not extend past the Township line.

MR. SPURRIER: Are there any further comments or testimony in 338?

MR. GIRAND: Yes, sir. I would like to have Mr. Ralph Fitting sworn.

RALPH U. FITTING,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. GIRAND:

Q Where do you live, Mr. Fitting?

A I live in Midland, Texas.

Q What is your profession?

A I am a Consulting Petroleum Engineer and Geologist.

Q Are you an individual or a firm?

A I am a partner in the firm of Fitting and Jones, which has been a consulting firm in one form or another since 1943 at that location.

Q State your qualifications for the purpose of the record as a petroleum engineer and geologist?

A I am a graduate of Stanford University.

MR. GIRAND: Does the Commission recognize his qualifications? If so, we will dispense with it.

MR. SPURRIER: Yes.

Q (By MR. GIRAND) Are you employed by the Fullerton Oil Company?

A On a consulting basis I have been employed by the Fullerton since 1944.

Q In the course of your employment have you had brought to your attention a survey and recommendation of the Fullerton Elliot properties in Lea County, New Mexico?

A As a result of the conflict which has arisen here, I have made a study of the situation as to the Hare Field and as to the area east of the Hare Field which is the subject of this conflict.

Q You are acquainted with the application filed by the Fullerton Oil Company asking for a field designation to be established covering the northwest quarter of Section 12, the southwest quarter of Section 1, Lots 13 and 14 in Section 1, the southeast quarter of Section 2, the northeast quarter of the southwest quarter of Section 2 and Lots 14, 15 and 16 in Section 2.

A Yes, sir.

Q Were you consulted in regard to ascertaining or describing the area to be included in the application?

A Yes, sir.

Q It was from your advice and your knowledge of the area that the limits of the proposed pool was so defined?

A Yes, sir.

Q Mr. Fitting, in the course of your study, did you prepare an area map showing the Simpson Well in the Township involved 21-37?

A Yes, sir.

MR. GIRAND: Do you have that map? Will you identify it please?

(Marked for identification.)

MR. SPURRIER: We will take a five minute recess.

(Recess)

MR. SPURRIER: We will proceed with Mr. Fitting's testimony in Case 338.

Q (By MR. GIRAND) Mr. Fitting, I direct your attention to our Exhibit No. 2 in Case No. 338 and ask you whether or not that plat was prepared under your supervision?

A Yes, sir.

MR. GIRAND: We would like to have this plat marked as Exhibit 2, please.

(Plat marked for identification as Exhibit No. 2.)

Q What does that plat purport to show?

A The plat shows the conflict of these various applications that have come before the Commission. The green outlined areas are the outline of the Hare Pool as it now stands. The brown outlined area is the area that was asked to be included by the Continental as part of the Hare Field. The red outlined area is the application of the Fullerton Oil Company for separate field designation. The yellow outlined area is the Terry Pool description as in call of Case 338.

Q Does that plat reflect any other data that you have prepared in regard to the Fullerton application?

A Yes, sir. It shows the Simpson development at the time of the completion of the Fullerton Oil Company, Fullerton Federal Elliot No. 1, there were two completed Simpson Wells located in Section 3, none in Section 2 and none in Section 10.

Q Were there any Simpson Wells completed in Section 11?

A No, sir.

Q How far from the nearest production was the Fullerton Elliot at the time of completion?

A A mile and a quarter.

Q Since that time had there been other wells in the area?

A Yes, sir, there had been.

Q Do you have a map showing those other wells?

A Exhibit No. 1 has the wells as they now stand.

Q Does the map reflect any other data that you propose to offer to the Commission in support of the Fullerton application?

A No, sir.

MR. GIRAND: We offer Exhibit No. 1 and Exhibit No. 2 in evidence.

MR. SPURRIER: Without objection the Exhibits will be received.

A (By MR. GIRAND) Mr. Fitting, I direct your attention to the Exhibit No. 1 and ask you to explain to the Commission just what that exhibit shows?

A This Exhibit shows the contours on top of the upper Simpson sand formation in the Hare Pool area. All the wells that are shown on here are all the wells that have been drilled through the Simpson section. Those with the single dot are the Ellenburger. Those with the circle are the wells completed in the Simpson. The contours on this layer are seen to be very uniform with a rate of about 100 foot to the location until one point down in Section 21 is encountered where 250 foot fault is evidence and again the dip is changed at a point in the west part of Section 2 where offset wells have encountered the sand with differences of nearly 400 feet. The exhibit

also shows a line of cross section which has been prepared and the exhibit shows the water level in the Hare Field, or I should say the water levels because there are at least two in the south part of the Hare Field, water is encountered at minus 4420 or below and in the interval between Section 21 and Section 22 the water level is no higher than 4641 and no lower than 4680. It also shows -

MR. SPURRIER: (Interrupting) Gentlemen, let's have your attention up here.

A (Continuing) The exhibit also shows that there have been numerous falls encountered in the area in the west part of Section 1 and the east part of Section 2, such as offset wells, the Fullerton No. 1 and Fullerton No. 2 Federal Elliot are 552 dip between the wells and Gulf AE and 6-E Leonard have 526 feet correlated as the difference in the two wells. The exhibit also shows an area where the Simpson is absent and granite knob underlies the pre-permian section.

Q Was that map prepared under your supervision?

A Yes, sir.

Q And from what source did you obtain the datum that you have placed on that map?

A That was, the data that are on this map have been obtained from the records that are on file with the New Mexico Oil Conservation Commission supplemented by Scout data and the

datum shown on this map have been obtained from electric logs. The points that are shown on the map you will notice that they are not on every well, but the points that are shown on the wells on which electric logs were available to me.

Q The map truly represents the picture as it exists there at this time?

A There is a matter of interpretation in the area of the faulted zone up in the northern part of this exhibit, but in my opinion the existenee of faults in there is amply justified by the virtue of the fact that both the Gulf 6-E Leonard and the Fullerton No. 1 Federal Elliot are producing oil at a greater depth than the water level in the Hare Field to the west.

Q Does that indicate to you that there is a separate reservoir existing between Section 3 and 10 and 6 and 2 and 1?

A Insofar as the description of the line coincides with the fault or the fault zones as shown on this exhibit, yes.

Q Is it your opinion that the Gulf well and the Fullerton well east of the west line of Section 2 are in a different reservoir than the Continental wells in Section 3?

A It is.

Q In the Simpson pay?

A Yes, sir, those wells are producing from the same lithologic unit, the Simpson sands, but by virtue of the fact

that the wells have been encountered at a depth greater than the water level in the remainder of the Simpson reservoir in this area I am satisfied there is no question about their being in a separate reservoir.

Q Mr. Fitting, in the course of your analysis of this application -

MR. GIRAND: Let me identify this as an exhibit, Exhibit No. 3.

(Marked Exhibit No. 3, for identification.)

Q Did you have prepared our Exhibit No. 3?

A Well, I prepared Exhibit No. 3.

Q The datum reflected from that exhibit, where was the source of that datum?

A Like Exhibit No. 1, it was obtained from those sources that I mentioned.

Q Will you explain to the Commission what the Plat Exhibit No. 3 purports to show?

A Exhibit No. 3 is to show the manner in which I determined the water level in the various fault blocks, the wells that were cleaned, the total [redacted] of them are shown on the map underlined in green. The wells that are producing water or where drill stem tests of water were obtained, the greatest [redacted] that the water could have been produced is shown underlined in red. In addition, there is a current water production

data in the Hare Field shown. It will be seen that at the point where the fault is shown in the middle of Section 21 that wells are producing water at depths of minus 4415, 4424, and similar depths. Whereas north of that fault Shell Argo No. 9 is clean at minus 4534, or a difference there within a quarter of a mile or within a half a mile of 120 feet, which is evidence that the 250 foot fault which occurs in this area is a [illegible] fault and one that has disturbed the fluids to the extent that they have not reached the same level even under geologic time . So there is no question in my mind but that there are two reservoirs at least one south of the faulted area and one north of it.

Q What did you find in relation to Sections 3, 2 and 1 and Section 10?

A The fault block north of Section 21 has wells that are clean down as deep as minus 4579 and there was one well, Shell Taylor Glen No. 1 that drill-stem tested both oil and water at total depth of minus 4641 and another well that drill-stem tested some water at depth minus 4680. I concluded that the water level in this block is plus or minus, minus 4641. Whereas to the east of the faulted area in Section 2, the total depth of the lower most drill-stem test on Gulf 6-E in the Simpson section was minus 4768 or 120 or 30 feet below the water table in this other fault block. Similarly Fullerton

Federal Elliot No. 1 is completed and producing water free at the depth of minus 4775. The water table must be somewhere below that point, and since the Simpson section was entirely water filled in Fullerton Federal Elliot No. 2, I can't say just where the water level is in that area.

Q In other words, in the Fullerton Federal Elliot No. 2 the Simpson area was flooded with water?

A Yes, sir.

Q And it was 551 feet lower than the Fullerton Elliot No. 1?

A Yes, sir.

Q Does the plat purport to show any other data in support of this application, Mr. Fitting?

A No, I believe that covers it.

MR. GIRAND: I would like to have this marked for identification.

(Exhibit No. 4, marked for identification.)

Q Mr. Fitting, did you have prepared a cross section of the area involved in this application and the adjacent area in Section 2 and portions of 3?

A Yes, sir, I have prepared such a cross section.

Q Mr. Fitting, did you prepare or cause to be prepared Exhibit No. 4?

A Yes, sir.

Q Just state to the Commission what Exhibit No. 4 purports to show.

A This is a cross section showing the pre-permian formations in the area of Sections 2 and 3 in the north part of the Hare Field area. The line of the cross section is shown on Exhibit No. 1. It goes through a dry hole, Shell Taylor No. 1, at least dry in the pre-permian which drill-tested oil and water between 4575 and 4654. The attitude of the formations in that well are shown by these depths, the top of the upper Simpson sand was minus 4571 in that well and the well as I say was dry. The next well on the cross section is Continental Hawk B-3, 3-E which is an Ellenburger well that was drill-tested for oil in the Simpson section and the intervals are shown in green.

Q The Hawk B-3 is in Section 3, is it not?

A Yes, sir. The next well is Shell State 10, which well was a recent completion in the Simpson section and the perforated intervals are shown and the color green for the fact that the well produced oil from those perforations is indicated at this point. The next Well is Shell State 6, which is a Bronson well and the data that was available to me showed no drill-stem tests in the Simpson section. The next well is the Gulf Leonard No. 6, which well when seen encountered the top of the Simpson sands section considerably

lower to any of the wells to the west with the exception of the dry hole on the extreme west. This well drill-stem tested the Simpson section at two points, the lower most point of which was minus 4768. The next well is the Fullerton Federal Elliot No. 1 which drill-stem tested the upper section sand was depleted as is shown with the perforation from minus 4512 to minus 4775.

Q From this map and the information that it contains, did you form an opinion as to whether or not there was a separate reservoir between Section 3 and Section 2 and 1?

A Insofar as the fault zones that are shown on Exhibit No. 1 are concerned and on the west and east side of that fault zone, yes, sir.

MR. GIRAND: We would like to offer Exhibit 4 and 3 and 1.

MR. SPURRIER: Without objection they will be received.

Q (By MR. GIRAND) Mr. Fitting, in your analysis of the two pools, did you make any check into the pressures of the wells?

A Yes, sir, I did. I couldn't find any reported pressures on wells in the northwestern part of the area. The only pressure in that area that was available to me was the one on the Fullerton Federal Elliot No. 1, which pressure was substantially the same as the highest pressure that I could find

on the Early wells in the southern part of the Hare Field area.

Q In your opinion, do you believe that the continuing of the present allowable of the Fullerton well will create any waste?

A No, sir, I do not.

Q You believe that that allowable is a fair allowable for that particular area?

A As I understand the rules and regulations of the Conservation Commission, it seems to me that the well qualifies as a wildcat well and having been completed below 8,000 feet, is entitled to its present allowable.

MR. GIRAND: I believe that is all.

MR. SPURRIER: Does anyone have a question of this witness?

MR. SCOTT: Yes, I do. W. A. Scott with Shell Oil. I would like to take just a second to look at the section on the board before I start questioning, Mr. Spurrier.

CROSS EXAMINATION

By MR. SCOTT:

Q Mr. Fitting, I believe you stated that you had made a detailed study of the Simpson formation in the area in question and that you are familiar with it as a result of these studies, is that right?

A Yes, sir.

Q I believe that in your Exhibit 2, it was a contour plat, is that right?

MR. GIRAND: No, Exhibit 2 is the area.

A Exhibit 2 was the area.

Q Which exhibit was the contour?

MR. GIRAND: No. 1.

A No. 1.

Q Those contours were on the upper Simpson sands?

A Yes, sir.

Q Is that what is commonly referred to and known as the McKee sand?

A That is right.

Q I believe you stated that these maps were prepared under your supervision?

A They were actually prepared by me.

Q Prepared by you. And that you further stated that you felt that the cross sections and the contoured plats in your estimation truly represented the picture as you saw it?

A Yes, sir.

Q Further I believe you stated that in your opinion the faults which you have put on your contour plat and on your cross sections and presented as exhibits, that these faults indicated separate reservoirs?

A Yes, sir.

Q And that in your opinion as a result of the interpretation of these faults on the contour plat on the cross sections that Fullerton Federal A-1, Gulf Leonard 6-E were in separate reservoirs from wells producing from Simpson sands to the west, is that correct?

A Yes, sir, that is my interpretation.

Q I believe that you had indicated on your contour plats and possibly on one the water levels, and also by your statement that there was a water level of 4420 feet subsea to the south of the fault which you postulated on your contour plats, is that correct?

A Approximately 4420 subsea, yes.

Q 4420, is that what you have found and stated before?

A Yes, it is.

Q What water level do you propose that to be, a Simpson water level or a McKee water level or Continental water level, in just what formation is that water level?

A That is a water level in the Simpson sand section.

Q Since you made this detailed study of this section, I am sure you are quite aware of the fact, plus being qualified as presenting geological testimony, that within the Simpson formation in this area there are two sand bodies from which we are producing in the Hare Pool and in the area to the

north, the upper most of which we refer to as the McKee sand and one of which you stated your contour is based on. The lower one which is known in geological terms as the Connell sand, is that right?

A There are more than two sand bodies; the McKee sand section that is composed of numerous sand bodies there is a slightly thinner shale section between the base of the McKee and the top of the Connell than is within the McKee sand section itself.

Q You spoke of the base of the McKee. Where do you place the McKee sand in the Simpson section in regard to the lower sands?

A I haven't placed, it as an approximately 15 or 16 feet above the top of the Connell.

Q But in your statement you placed it in the Connell?

A There is a shale section in the Connell and I have regarded the Simpson sand section as entirely one sand series.

Q I believe you stated that Shell Argo 9 was producing clean oil from the Hare Pool from a certain subsea depth. I didn't get that at the time. Could you tell me what that was. I didn't get that down?

A That was Shell Argo 10, which is producing from a total depth of minus 4512.

Q That was Shell Argo 10?

A Yes.

Q Thank you. Now then, I believe you stated that was clean to that depth, 4512 subsea. You are probably familiar with looking at the log on that well and knowing that the full Simpson section is open, the productivity section is open, that is the McKee and what I will refer to that is the Connell section that is below what you have referred to as a shale break below the McKee?

A Yes, sir.

Q Mr. Fitting, with regard to this shale break, don't you think it would be quite possible that there might be two distinct and separate structural traps as far as water is concerned within the Simpson section, and that there might be a different water level in this lower sand that I have referred to as the Connell and which if you will refer to any electric logs shows as a more or less separate sand body below the McKee and below the shale section that you have talked about. Wouldn't you think that there might be the possibility, geologically speaking, that there might be two separate water traps, two separate water reservoirs there?

A Yes, sir, there certainly could be.

Q There could be that possibility. Thank you. In that case if that possibility were to hold true there might be two different water levels in the Simpson formation, is that not

true, does that not follow?

A Yes, sir, there might be.

Q Mr. Fitting, I noticed from your contour plat and cross section you presented and from your statements, the Exhibits that you presented, that you testified from, that Federal A-1 is in a separate block from the majority of the McKee-Connell Wells producing to the west of that area as a result of the faults that you postulated on your Exhibits, that you considered Fullerton Federal A-1 and the Gulf well to be in separate McKee-Connell reservoirs?

A In a separate Simpson reservoir. I know of no well whether you wish to name the sands as McKee-Connell, that is clean to the depth that those two wells are now producing clean oil minus 4775.

Q Since you are presenting the geological data for Fullerton at this hearing and since the faults that you have shown on the cross sections and contour plats play somewhat of an important role in determining the separation of these reservoirs in the Simpson, I would like to ask you some questions regarding the fundamental structural geology as to the basis for these faults proposed to geologically and structurally divide the Simpson sands in separate reservoirs. Mr. Fitting, is it not true, well probably as to geologic concept that a fault depth to definitely be proved to be existent beyond any doubt

you have to have some means of determining that it is there. In this particular case, since the formations involved are beneath the surface and the only way you can definitely geologically prove the faults to be present, don't you have to show beyond any question in order to prove that it is there that that fault actually cuts a well bore?

A Not if that fault displaces the water table - -

Q (Interrupting) I am asking - -

A (Continuing) I think that is accurate proof.

Q I am asking you as to structural qualities, just from structure faults and contours. Don't you have to show that the fault cuts a well bore before you can put it on there and say it is definite that it is there?

A There are many faults that have been placed geologically without the fault exactly cutting the well bore.

Q But you don't prove that the faults are there unless you can show the fault cut the well bore, is that not right?

A Most of the faulting in West Texas and New Mexico is of the type that it is at such a right angle that we rarely see them cut a well bore.

Q Therefore, you have no proof geologically that the faults are actually there, is that right?

A Yes, geologically, there is a great deal of interpolation in it where you find a uniform regular dip as you find in this field suddenly altered and the rate of dip increased from one hundred feet between well bores to three

hundred or more there is indirect evidence of faulting.

Q Indirect evidence. Of course, as you say indirect evidence, now you have made a statement that these dips are regular. That is purely your interpretation, is that not right?

A I don't think that anyone that would contour the area would show any thing other than a regular dip in the area where I have shown it.

Q That is purely a matter of personal interpretation as far as that goes. I imagine it is on any structural question involved any geologist would have many pictures of the same structure, but, in other words, Mr. Fitting you can't actually show us where the faults cut a well bore and actually therefore prove that the faults are definitely there? There is indirect evidence of them gologically, is that the answer?

A Only indirect evidence, not positive, indirect evidence.

Q Is there any positive evidence?

A To me it is positive.

Q To you it is positive.

A May I finish the answer. To me - -

Q (Interrupting) Sure.

A (Continuing) To me it is when coupled with the fact that the fluid levels are disturbed by the faulting. To me it is positive when the fluid is - -

Q (Interrupting) There is another theory in geology

with regard to placing the fault on the contour map and that is to determine the dip and the strike of the fault, the dipping the deviation horizontal and the strike being the horizontal direction of the fall that you have to have three wells out in order to determine the strike dip and fault and can you determine the strike and dip in any of the faults that you have shown?

A I know that the dip is very steep, very high laid fault. I know the strike is fairly well controlled by the occurrence of only three wells none of which are out by any of these faults.

Q You say that you know that the dip in these faults are steep. How do you know that the dip is steep?

A That is another indirect evidence from other fields in West Texas and New Mexico that all the faults are very steep.

Q That is indirect evidence?

A Yes, sir.

Q Mr. Fitting, since you haven't definitely proved to us that the wells haven't cut any wells - -

MR. GIRAND: (Interrupting) We object to the form of the question.

MR. SPURRIER: Objection sustained.

Q (By Mr. Scott) Mr. Fitting, can you say definitely that these structural interpretations which you have presented are not wrong?

A I will say this that additional wells will supplement the data that we now have and it may prove that the picture has changed materially over what is shown here. As a matter of fact the last two wells, the Fullerton Well, Fullerton Elliot No. 2 has changed the picture materially as has Gulf Leonard A, the later well being 526 feet high and the former well being 515 feet low. I am sure that wasn't anticipated. I hadn't anticipated that would occur.

Q Now - -

A (Interrupting) Let me finish. If there is any change in the picture I think it will be on the side of complicating it rather than simplifying it as it now stands.

Q Just what geologic age do you consider these faults that you have shown them to cut?

A They are all pre-permian. The faults die out at the basis of the pre-per -- at the original surface overlying the pre-permian.

Q Based on your study of this field of what gross thickness, let's just say an average thickness in the area that we have in question, what average thickness would you assign to the Simpson section that is productive?

A I haven't assigned any such average.

Q Well, could you give us one just purely as an estimate, an average?

A The gross productive section is shown on the cross

section here as being from Shell State 10 minus 4087 to minus 4482, which is the thickness of about 350 feet, no, about 400 feet.

Q 400 feet?

A Yes. That is a maximum thickness.

Q Yes, that is including the productive interval there?

A Yes, sir.

Q Do you know off hand what the average gross thickness of the Ellenburger is in that area where it is present and productive?

A It is quite variable.

Q I might add there that we find it varies from around 100 to 150 feet. Would you go along with that as an estimate?

A It depends on how much granite wash there is as to what the thickness is.

Q How much throw or vertical displacement would you assign, did you give to those faults up in the northeast end of your plat or your cross section, either one?

A It is shown here on the cross section with approximately 300 foot of throw in this fault zone or 350.

Q About 300 to 350?

A Yes, sir.

Q Is that for both of the parallel down steps?

A Yes.

Q Since the McKee, since the Simpson sands lie immediately above the Ellenburger where both the Simpson and Ellenburger are present in the area, then your fault would have to cut you state both the Simpson and the Ellenburger?

A Yes, I imagine it would.

Q Since the Ellenburger in this area is know not to be as thick as the Simpson - -

MR. GIRAND: (interrupting) If the Commission please, I am going to object again. The Ellenburger section is not involved in this hearing.

MR. SCOTT: I am trying to make a point here, Mr. Spurrier, if I could continue. I realize that the Ellenburger is not within the call of the hearing, but with regard to the geologic point that I am trying to bring out just one or two questions more. It is quite important for me to prove my point that I do include them. I do realize that we are not discussion the Ellenburger with regard to the call but I just want to talk about it.

MR. SPURRIER: Very well.

Q By MR. SCOTT: Since you say that the faults cut

both the Simpson and the Ellenburger formations and the Ellenburger is not as thick here as the Simpson, at least it is not thicker, can you consider these faults to separate the Simpson into different formations then, of course, we consider those to be seen faults. Then if they separate the Simpson into different formations as a result of these stated faults they would likewise, it would seem, have to separate the Ellenburger. Now, are you familiar with the Commission's order, it is a recent order No. 4,124 dated January 8th, and it is with regard to consolidating the Brunson and the north Brunson pools into one pool to be called the Brunson Pool. Are you familiar with that?

A No, sir, I am not.

Q That order which was issued by the Commission included the southwest quarter of Section 2, that is included in the Brunson Pool limits, the southwest quarter of Section 2 and Lots 11, 12, 13 and 14. In Section 2, to be within the limits of the Brunson Pool then it also gives some other acreage on down to the south. This had been the North Brunson and this the Brunson and they consolidated them. Now, Mr. Fitting, that order was arrived at after about a six month period since the North Brunson Pool was discovered. The testimony has been presented by operators before this Commission and after due consideration of the testimony that the Commission

has considered all of the Brunson Pool to be one reservoir. Now, in the light of your contour plats and cross sections and in view of Fullerton's proposed boundaries of the Terry Pool, I believe that you will find that there is an 80 acre section there in which the Fullerton proposed Terry Pool boundary and the Brunson Pool boundary as already set down by the Commission, that they overlap. If the Simpson formations are considered to be a separate reservoir in those two 40 acre units in the west half of Section 2, which you have included in your boundary, then it would follow by geological reasoning in view of your faults which have segregated reservoirs that the Ellenburger reservoir under these two 40 acre units would have to be dealt with the same way, for where you had separation by fault in the Simpson certainly you would have it in the Ellenburger. Therefore, I just want to point out to the Commission that in the light of this testimony that is being given by Fullerton regarding the creation of the new Terry Pool and in view of the Commission's order which has included 80 acres within the same area, it looks to me like there would have to be separate reservoirs set up there for the Brunson Pool as it would have to be for the Simpson formation if this Terry Pool is created as such.

MR. GIRAND: This seems to be more in the nature of an argument and a closing argument.

MR. SCOTT: I just wanted to ask him a few more questions.

Q (By MR. SCOTT) Mr. Fitting, this is a log, it is a survey that was run on the Fullerton Federal A-1, which was given to us by Fullerton. We would like to know if you would concur with our ~~collation~~ correlation for the top of the McKee sands as we have shown it on here?

A No, I don't.

Q Where do you place the top of the McKee sand?

A minus 4446, which is 14 feet lower than where you have it.

Q That would be approximately right here, wouldn't it (indicating)? Now, in light of the fact that you are producing from this Simpson formation, do you consider, as does the Commission, that all of the productive interval in the Simpson in one common reservoir?

A I have already stated that it is possible that there is more than one water table in the Simpson section.

Q Let's say that the, for instance, in the interval here shown on the log in the productive interval, would you consider all this one common reservoir as the Commission has with regard to productive intervals in other Simpson sand producing wells?

A If it is not it has been made a common reservoir

by the Well Board.

Q Do you have available a record of the drill-stem tests taken by Fullerton on the Federal A-1?

A Yes. Insofar as the Simpson sections are concerned, those drill-stem tests are shown on the cross section.

Q On the cross section?

A Yes, sir.

Q I would like to take the liberty of asking you or to read them or either we can point them out to the Commission. The drill-stem tests taken in the upper part of the Simpson sands in this well and the intervals that were included in these tests.

A There was one drill-stem test taken for minus 4449 to minus 3937.

Q In the Fullerton Federal A-1?

A Yes.

Q According to your records received from information released from Fullerton we have a record showing three drill-stem tests taken within the Simpson sand section. The first being from 7942 to 7967 feet?

A That is correct.

Q In which there was a recovery of 180 feet of 45 degree gravity oil and 360 feet of oil and gas cut mud?

A That is correct.

Q. That was 7942 to 7967. Then we had a record 7965 to 7992.

A That is right.

Q And it has been reported to us that on that drill-stem test the well flowed 11 barrels of clean oil per hour, the gravity of which was 46.2 degrees.

A That is correct.

Q That was from 7965 to 7992. Then there was a third drill-stem test taken from 7994 to 8030.

A That is correct.

Q On that drill-stem test from 7994 to 8030 the report showed that the well flowed, that the tool was open one and a half hours and flowed 117 barrels of clean oil per hour.

A That is correct.

Q Mr. Fitting, are you familiar with Rule 5 in the rules and regulations of the Commission?

A I am probably familiar with it but not by its number.

Q I would like to take the liberty to acquaint ourselves by reading one or two sections. "In allocated pools, the allocation between pools is in accordance with the top of the producing depth of the pool and the corresponding proportional factor set out below. The depth to the casing shoe or the top perforation in the casing, whichever is the higher, in the first well completed in a pool determines the depth classifi-

cation for the pool." Now, Mr. Fitting, in light of the fact that there was definitely clean Simpson production established by drill-stem tests from a depth of above 8,000 feet in this well, that shows of oil and gas were recorded by drill-stem tests as high as 7942, that a flow of clean oil 11 barrels per hour rate was established by drill 7965 to 7992 was established from 8, Mr. Fitting, had your company perforated some of this pay from 7942 to 8000 feet, I'm quite sure that this whole question of a new pool designation never would have come up. That is all.

A You don't/have a question relating to that.

MR. SPURRIER: Mr. Fitting, in view of the fact that Mr. Scott has been testifying here, if you have anything further to put into the record I suggest you go ahead. It wasn't strictly a cross examination.

MR. SCOTT: I certainly wish to apologize. We do have further testimony at which time we can be cross examined on any testimony that we have.

MR. SPURRIER: The Commission always likes to get a complete record and for that reason we let you testify as you did and we expect you to testify further, but Mr. Fitting in all fairness might have something to say without being on cross examination.

A I would like to volunteer this, that with reference to the perforation below 8,000 feet it is my understanding

that the Fullerton engineer advised with an engineer from the Shell Oil Company as to the practice in this field and whether the Shell considered this to be a depletion type reservoir with the possibilities of gas capping it at a later date and was adivsed not to perforate the top of the sand. As a matter of fact, if you will notice the Shell State 10, the top of the perforations in that well are roughly the same distance below the top of the sand as in the Fullerton well.

MR. SCOTT: Could I answer that question?

MR. SPURRIER: I didn't notice any question, Mr. Scott.

MR. GIRAND: I would like to ask one further question.

RE-DIRECT EXAMINATION

By MR. GIRAND:

Q Mr. Fitting, has anything been brought forward here by the examination of Mr. Scott or his statements into the record which would change your opinion as you have previously expressed it in regard to the reservoir?

A No, sir.

MR. GIRAND: That is all.

MR. SPURRIER: Any further questions of this witness? If not, we will take a recess in this case for lunch until 1:45 p. m.

(Whereupon, the hearing was recessed until 1:45 p.m.)

AFTERNOON SESSION

Thursday, February 21, 1952, 1:45 P. M.

MR. SPURRIER: We will come to order.

MR. GIRAND: If the Commission please, we just finished the witness Fitting and that is the applicant's case.

MR. SPURRIER: That is your case. Mr. Scott, do you have testimony to put on?

MR. SCOTT: Yes, I do.

MR. FEDERICI: Will the record show that W. R. Federici ~~Cheston~~ Montgomery is appearing here for Shell Petroleum Company. Mr. Scott will proceed on his own. I will just sort of sit here and help out.

MR. SCOTT: Would you like any qualifications?

MR. SPURRIER: Have you qualified before?

MR. SCOTT: I don't know. I will be glad to for the record if you desire.

MR. SPURRIER: Briefly.

MR. GIRAND: We will admit his qualifications.

MR. SPURRIER: Well, we will accept your qualifications. Go ahead.

W. H. SCOTT,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. FEDERICI:

Q Where you state in the records the qualifications as

what for example?

A My qualifications to testify on the fact that I am employed as an Expiration Engineer with Shell Oil and as such do jobs for the Shell Oil.

MR. SPURRIER: Let's speak loudly and make everything distinct and take it slowly.

Q Before you proceed, Mr. Scott, do you care to make any answer to Mr. Fittings statement concerning a statement made to him or his company by Shell engineer?

A Yes, sir, I would. I would just like to make the statement that I have been authorized by the Shell management to say that no engineer employed by Shell Oil Company was authorized by the Shell management to make any statement to Fullerton or their representatives or to advise them with regard perforating any well. It certainly is not Shell's policy to advise any company as to where they should perforate their wells or how they should produce them.

MR. FEDERICI: As I told the Commission a while ago, I am not acquainted with the facts, but I would like Mr. Scott to just proceed as he will on his own statements.

MR. SPURRIER: Very well.

A The Hare Pool was discovered with the completion of the Amerada Hare No. 6 in the northwest quarter of the southwest quarter of Section 33-21South, 37 East. The discovery

date for the Pool was placed on July 20, 1947. Hare No. 6 was completed on July 25, 1947. Some four days after the completion date this well was shut in for thirteen days and a static bottom hole pressure taken. This pressure was found to be 3,033 pounds per square inch at a datum of 4300 feet subsea and is considered to be very near the original reservoir pressure of the Hare Pool.

Since that time 8 field-wide surveys have been taken by the New Mexico Oil and Gas Engineering Committee. I would like to present Exhibit No. 1 to the Commission.

(Marked Exhibit No. 1, for identification.)

A (Continuing) Exhibit No. 1 is an arithmetic average bottom hole pressure for each of these surveys. It is an arithmetic average bottom hole curved plot of pressure versus time for the Hare Pool.

MR. GIRAND: If the Commission please, we would like for the Shell to state to the Commission whether they protest our application or whether they seek to have the territory covered in our application included in the Hare Pool or just what their position is. We are at a loss to know how to meet the statements of Mr. Scott without knowing what they are predicating their statements on. I think we ought to be entitled to know what your position is.

MR. SCOTT: I will be glad to answer that. We are

presenting our testimony with regard to the call of the hearing which is, under the call, is the creation of the Terry Pool. We are opposing the creation of the Terry Pool as within the call of this hearing.

MR. GIRAND: Then to go a step further we have eliminated certain portions of the territory included in the call for the designation of the Terry Pool. In other words, the only testimony that has been offered has been in regard and relation to the application of the Fullerton Oil Company. Are you directing your protest to that particular designation or are you directing it to the entire Terry Pool designation?

MR. SCOTT: I am designating our opposition to the case as submitted and has proposed on the motion of the Commission.

MR. GIRAND: That is all.

MR. GRAHAM: The elimination of that acreage wouldn't materially effect your position.

MR. SCOTT: I don't know that I quite understand.

MR. FEDERICI: There was an acreage eliminated this morning from the particular pool. May I inquire what acreage was eliminated this morning?

(Discussion off the record.)

MR. SCOTT: I understood this was a Commission called case and not an application of Fullerton for the creation of

a Pool.

MR. SPURRIER: Do you want to proceed. Do you want to answer that?

MR. GIRAND: Only to this extent, that is correct. This is a Commission called case but the call of the Commission was based on the application of the Fullerton Oil Company and the Commission on its own motion enlarged the territory.

MR. SCOTT: All we can do is come prepared to testify as the case is proposed and this area is outlined here in red which you mentioned this morning was not included, it is included within the total boundaries that the Commission has proposed and we have come prepared to testify as the Commission proposed the boundary which includes this acreage also.

MR. WHITE: Let me ask this question. If the Commission confines itself to the position of Fullerton, what position do you take as to that?

MR. SPURRIER: Which would be the area within the red.

MR. WHITE: Within the pink or red.

MR. SCOTT: Well, isn't that beyond the call of the hearing? Isn't the hearing as it is set up for these four sections, maybe I am not following what you are trying to get at and also included in that the Fullerton has come up this morning and said that, I believe I am right, correct me if I am wrong, that this was the boundary that they would propose.

This is the boundary here of the Terry Pool.

MR. GIRAND: As a matter of fact, the record will show that in December we had filed such an application and this is the outline of our proposed Pool designation.

MR. FEDERICI: Nonetheless, it is a creation of a new Pool.

MR. GIRAND: That is correct. If he has opposition to the outlying acreage such as the north half of 2 and 1 and the south half of 12 and the northeast quarter of 12 and all of Section 11 why that portion of Section 2 lying west of the southwest quarter an 80 acre tract up here, why we have no protest. We don't think it belongs in the Terry Pool either.

MR. SCOTT: It is not the matter of your protesting, Mr. Girand, it is a matter of letting me testify on the case as called by the Commission.

MR. GIRAND: There is nothing before the Commission in support of those particular tracts.

MR. SPURRIER: That is right.

MR. SCOTT: I have nothing --

MR. GIRAND: (Interrupting) It is not paramount to the issue because there is nothing before the Commission here on that.

MR. FEDERICI: It goes to show whether the Pool in

this particular area should be established. His testimony should go to whether it should be.

MR. GRAHAM: Have you withdrawn and would you amend your application to all that land except the inside of the red line?

MR. GIRAND: As a matter of fact, we never had it in there. That was the Commission's own --

MR. GRAHAM: (Interrupting) That is what the Commission issued their notice on.

MR. GIRAND: Our application only called for land colored in red.

MR. FEDERICI: But the Commission --

MR. GIRAND: (Interrupting) The notice went out on the four sections.

MR. GRAHAM: That is what we used here.

MR. FEDERICI: Where is the call?

MR. SCOTT: If it please the Commission, I would like to state for Shell that we are here on the understanding that this is Case 338 B which was a matter of the application of the Commission upon its own motion for an order for the creation of a new Pool to be known as the Terry Pool for Simpson production to include all of Sections 1, 2, 11, 12, 21 South, 37 East. That is the call of the hearing and that is what we are here prepared to testify for.

MR. FEDERICI: I think that is the idea to proceed in that the Commission has called it on all those particular Sections. I think the Commission can determine whether or not it really effects this particular area or not. I think it does not effect the entire area but it includes the area that is marked Fullerton because it is an establishment of a Pool within this area including the Fullerton area. I think the testimony is pertinent to the establishment of the Pool.

MR. SPURRIER: The Commission did call the case as you have stated. You are entirely proper in testifying on that case. However, with all due respect to all witnesses let's hurry it along as fast as we can. Let's don't review each and every item of the whole case.

MR. SCOTT: Well, I would certainly like a chance to present my testimony in full, to present the company's picture.

MR. SPURRIER: That is right, you have that opportunity at this moment.

MR. SCOTT: I will speed it up as much as I can.

A (Mr. Scott continuing) Based on Exhibit No. 1 the arithmetic average bottom hole pressure for each of the Hare Pool field-wide surveys is plotted on the Exhibit, the graphical plot of the Hare Pool average bottom hole pressure versus time

indicates that the reservoir pressure is declining steadily and by the June, July, August 1951 survey a pressure reduction amounting to 944 pounds per square inch occurred which pressure drop amounts to about 2,259 barrels of oil produced per pound per square inch pressure drop. With this in mind, we would like to take time to bring to your attention some interesting facts about the pressure behavior in this Pool as Simpson development moved northward from the discovery well, Amerada Hare No. 6.

At this time I would like to present in evidence Exhibit No. 2, a map of the area in question.

MR. FEDERICI: These have not been offered. To save time we will offer them all at once.

(Marked Exhibit No. 2, Case 338-B.)

A (Continuing) In November and December of 1948 the bottom hole pressure survey was run which included a well in the south half of Section 33 and two wells in the north half of Section 33. In the observed average bottom hole pressure for these three wells it was 2,880 pounds per square inch.

Then in April 1949 a well was completed in the north half of Section 28 in the southwest quarter of the northeast quarter. In May, June, 1949 field-wide survey it had a pressure of 2,934 pounds or 54 pounds higher than the observed average field bottom hole pressure for the November, December, 1948 survey

which was taken some six months previously.

Then as we move northward in our example in May, June, 1949 a field-wide bottom hole pressure survey was run which included a well in the north half of Section 28, then the other wells that were producing to the south of that, four wells were surveyed in this field-wide survey which included two wells in the north half of Section 33 and two wells in the south half of Section 28 and the average bottom hole pressure for the five wells was 2,875 pounds per square inch. In August 1949, a well was completed in the southwest quarter of Section 22, Shell Turner No. 4 with an initial bottom hole pressure of 2,902 pounds per square inch or 27 pounds higher than the average observed field bottom hole pressure for the May, June, 1949 survey.

Then in the November, December, 1949 period another field wide survey was run. It included coming from south to north three wells in the north half of 33, one well in the southeast quarter of 29, three wells in the south half of 28, two wells in the north half of 28, two wells in the south half of 21, and one well in the southwest quarter of Section 22. The average bottom hole pressure for these 12 wells was 2,742 pounds. Then in January, 1950 approximately a month to a month and a half later the well was completed in the southeast quarter of the northwest quarter in 22, Shell Argo A-4, with an initial

bottom hole pressure of 2,989 pounds or 247 pounds higher than the average observed field bottom hole pressure for the November, December, 1949 survey. It is of interest to note that at the time of completion for Shell Argo A-4 this well was one half mile north - northeast outstep to the northern limits of Hare Pool production while the previous outstepping examples were approximately one location outsteps.

In June, July, and August of 1951 another field-wide survey was run on bottom hole pressure which included a total of 26 wells and the producing area of the field which had an average bottom hole pressure of 2,089 pounds. Then approximately a month and a half later in September the well was completed in the northwest quarter of the southwest quarter of Section 15, Shell Argo No. 10 with an initial bottom hole pressure of 2,885 pounds or 796 pounds higher than the average bottom hole pressure for the Hare Pool in the July, August, 1951 survey.

It is of interest here to point out that Shell Argo No. 10 was drilled in an area which was a half mile outstep to the then limits of Hare Pool production.

In October 1951 the Continental Hawk B-3-1-S was completed in the southeast quarter of Section 3. It has been reported to us that this well had observed initial bottom hole pressure of 2,905 pounds per square inch. The completion of this well

in the Simpson marked a one half mile northerly outstep from the then northern limits of Hare Pool production in the north half of Section 15. Its first observed bottom hole pressure was 816 pounds higher than the average measured in the older producing area one to two months previously.

Therefore, you can see that starting from the discovery well from the Hare Pool as development progressed northward the new outstepping wells had pressures higher than the producing areas already established to the south. I have brought to your attention northerly outstepping wells which had as much as 816 pounds per square inch more pressure than the average bottom hole pressure of the wells in the previously proven areas to the south. I would like to point out that this certainly was nothing to cause the operators in the Hare Pool to request any new pool designations, and that it was felt that this was merely the practical proof of the basic concept of petrophysics and reservoir engineering. This concept is that in a reservoir such as this, which is made up of shale and sands, with a calcareous or limey material holding together the sand grains, that the permeability is generally of a medium order. In these outstepping locations it is logical to expect that a first observed bottom hole pressure will approximate more nearly the original conditions rather than observations in the areas that have been producing for some

time. In these higher than average observations it indicates a lack of complete pressure equalization during the short producing life but do not indicate the discovery of a new reservoir.

The correct interpretation of these observations has been realized by the companies that have been drilling and producing in the Hare Pool for almost five years. As a result of the testimony the Commission has in the past continued to consider such outsteps as extentions of the Hare Pool and have progressively extended the boundaries of this pool northward to the south line of Section 10, which is the present limits.

Now, in a further attempt to show you reasons why, in our opinion, no data or Exhibits have been presented to give conclusive proof as to the existence of a new and separate reservoir in the Simpson, I would like to present for your consideration some structural interpretations of the McKee and Ellenburger. First, I would like to say that we make no attempt to testify that any one of these interpretations is the only correct interpretation for either of the two formations. As you have no doubt seen in previous cases before this Commission, there are times when no two geologists will have the same interpretation of a structure in question. We are presenting these interpretations to show you how much the picture actually can vary from one extreme to another. With that in mind, I

would like to present in evidence Exhibit No. 3.

(Marked Exhibit No. 3, Case No. 338, for identification.)

A (Continuing) This Exhibit is a structural interpretation of the McKee sand. You will note that this Exhibit shows the McKee structure to be highly faulted with many different fault blocks. These faults on this plat are not tied down. We have no definite proof that they are there. However, they are based on indirect evidence as previously testified.

In other words, we can put these faults on this plat as a matter of one persons interpretation, and we can at the same time draw the contour lines so that they are correct with regard to the amount of displacement theoretically assigned to that fault. So you can see, with regard to this picture, that coming from south to north as the Hare Pool was developed by northerly outstepping wells which had higher observed bottom hole pressures than the average pool bottom hole pressure, and that these wells might have been across any one of these faults. In many of these fault blocks in line with previous testimony presented before the Commission today they might be designated as separate reservoirs. Again, I would like to point out that in the past as the Hare Pool was developed to the north by outstepping wells which had the higher observed pressures, that the Commission considered these outsteps to be in the same reservoir as the Hare Pool.

At this time I would like to present in evidence another Exhibit.

(Marked Exhibit No. 4, Case 338, Shell, for identification.)

A (Continuing) Now, since the simplest solution to a problem is often the most straight forward and consequently sometimes the best, we would like to present Exhibit 4, which is another structural interpretation of the McKee sand and which, as you can see, contains no faults of any kind. On this picture, we don't have to worry about hypothetical faults or faults with which no positive proof can be given as to their actual presence. We would further like to point out that to us this interpretation is very logical and violates no basic concept of structural geology. In fact, it appears to be entirely reasonable. We would like at this time to present two more Exhibits.

(Marked Exhibits No. 5 and 6, for identification.)

A (Continuing) These are structural interpretations of the Ellenburger, which is immediately beneath the Simpson formation. We are merely presenting these interpretations in order to prove to you that we are basically correct in our contour work.

MR. GIRAND: Just a minute. We object to this. At this time we object to any introduction of the maps relative to the Ellenburger as a matter not in issue at this time.

There is no doubt some of the record --

MR. FEDERICI: (Interrupting) If the Commission please, it is pertinent to show --

MR. GIRAND: (Interrupting) It has no bearing whatever.

MR. SPURRIER: We will accept the evidence for what it is worth.

MR. SCOTT: As I said, we are merely presenting them to prove to you that we are basically correct in our contour work. For any form of structure interpretation of the Simpson and the Ellenburger, whether faulted or not faulted, should have the same basic configuration for both formations. That is all I have.

MR. FEDERICI: If the Commission please, we offer Shell's Exhibits 1 through 6 in evidence at this time.

MR. SPURRIER: Without objection --

MR. GIRAND: (Interrupting) We would like for the protestant to state on which map he is relying. These maps not being consistent covering the same area, we would like to know which one is his picture?

MR. SCOTT: I don't believe I follow your line of questioning.

MR. GIRAND: You say you have one here without any faults and you have one with faults and either one can be correct. Which one do you rely on, Mr. Scott?

MR. SCOTT: We rely on, Mr. Girand, in this area we don't rely on any one particular structural interpretation. We use all interpretations that we feel like have any bearing on the case when we go to picking locations to drill and we don't maintain that either one of these are the one and only interpretation but mainly that we have drawn these up and that they are correct geologically and can be used.

MR. GIRAND: We move that his answer be stricken as not responsive. We asked which map --

MR. FEDERICI: (Interrupting) Well, if the Commission please, they rely on all of them. They are showing here the various interpretations which can be gathered by different geologists and different engineers. As stated in his testimony, one will rely on a certain type of a structure and another will rely on a different type of structure. He says some of them, all of them in some way, effect the pool or the decision in this particular case.

MR. SPURRIER: The Commission is already confused enough, but we will accept these Exhibits for what they are worth. Are you through with direct examination on Mr. Scott?

MR. FEDERICI: Yes.

MR. SPURRIER: Do you desire to cross examine?

MR. GIRAND: I desire some cross examination. If you will give us a little time with the maps, they are new to us.

MR. SPURRIER: You are through?

MR. SCOTT: Yes, I am through.

MR. FEDERICI: We offer them in evidence, -

MR. SPURRIER: (Interrupting) They are.

MR. FEDERICI: (Continuing) so that the record will show they are introduced into evidence.

MR. GIRAND: We ask for a recess of thirty minutes to go over the documentary maps.

MR. SCOTT: I didn't have thirty minutes to go over theirs. I had five.

MR. SPURRIER: You can have thirty now.

MR. SCOTT: That is not the point.

MR. SPURRIER: I might say that I did not expect this case to carry this long. I will answer your request in a minute, Mr. Girand. By the chronological docket, Case 308 should have come before this one.

Mr. Girand has asked for a few minutes recess on the case to study the maps. I see no reason why he shouldn't have that time. At the same time, you may study their exhibits, if you care to. So we will take a recess in case 338 and we will at this time take up Case 308.

MR. CAMPBELL: Mr. Chairman,

MR. SPURRIER: Mr. Campbell.

MR. CAMPBELL: If the Commission please, I don't want

to prejudice any of the people who are acting actively in the Case 331, but Gulf has a brief statement they wish to make and some of the people want to go back to Texas this afternoon. If the Commission would agree and if the attorneys for Shell and for Fullerton would agree, we would like to make this statement at this time and get it into the record rather than wait until Case 308 is through and then if this case comes back on and we have to wait until the witnesses are finished -

MR. SPURRIER: (Interrupting) You mean Case 338, do you not?

MR. CAMPBELL: 338, yes.

MR. GIRAND: We have no objection.

MR. SCOTT: We have no objection.

MR. SPURRIER: All right, Mr. Campbell, proceed. This is Case 338, a statement by Gulf Oil Corporation.

MR. CAMPBELL: I want to read it into the record. We intend to present no testimony in this case. Jack M. Campbell, Roswell, New Mexico, speaking on behalf of Gulf Oil Corporation.

All of the Gulf wells now completed or now drilling, as well as the undeveloped Gulf leases in the immediate area involved, are included in the proposed new Terry Pool as delineated by Fullerton today. However, subsurface information within the

presently defined limits of the Hare Pool suggests considerable faulting in the Simpson sediments and that there may already actually be two or more reservoirs in the pool. The area is extremely complex from a structural standpoint. We do not feel sufficient geological data is available at this time to conclusively show the existence of a new pool in the immediate area of the Fullerton Elliott well. In view of the complex nature of the area and the lack of conclusive evidence of complete separation, we are of the opinion that the treatment of this well for the present in the same manner as other wells in the Hare Pool would be most practical and equitable approach to the matter, at least in the absence of more conclusive evidence. It is therefore, our recommendation that no new pool be designated at this time in this area.

MR. SPURRIER: Do you actually ask for continuance of the case?

MR. CAMPBELL: We had not sought a continuance and do not move for a continuance but we feel that the Commission may either grant the application on its own call or the restricted one as amended today by Fullerton or it may designate this area to be in the Hare Pool or it may in the absence of more evidence and in the period when more evidence is available treat the wells developed in this particular area in the same manner as other wells in the Hare Pool pending additional evidence.

MR. SPURRIER: Thank you.

MR. GIRAND: I would like to reply to Mr. Campbell to this extent. The nature of the request is equivalent to have this Commission to pass on the extention of the Hare Pool to include the Fullerton property in Section 1 and there has been no notice whatever of any such pool designation or extention of the Hare Pool. His statement goes beyond the call of this Commission, and to that extent should not be considered.

MR. SPURRIER: If no further comment, we will recess Case 338 and take up Case 308.

(Recess)

MR. SPURRIER: We will proceed with Case 338. Mr. Girand.

CROSS EXAMINATION of MR. SCOTT

By MR. GIRAND:

Q You are the same Mr. Scott who was on the stand immediately before the recess?

A Yes, sir.

Q A representative of Shell Oil Company?

A Yes, sir.

Q I hand you here Exhibit No. 4 offered by you in your protest and ask you was that map prepared under your supervision?

A Yes, sir, it was.

Q Was that map prepared especially for this particular hearing?

A No, sir, it was not. We have had contours like this and we have tried to keep up with the development of the field up in this end with no faults on either ever since we recognized that there might be the possibility that we could contour it without any faults. We are quite interested in trying to do so to see what type of picture it would present.

Q That map bears the date line of February 19, 1952, does it not?

A Yes, sir.

Q At the time that map was prepared you had additional information in your office in regard to the Shell Cheshire Well that would have some probative force in the application pending before this Commission, would it not?

A I don't believe I understand the question.

Q I say you at that time, at the time this map was prepared, Shell had completed the Cheshire Well in the south, well I believe it is the northeast quarter of the southwest quarter of 12?

A No, sir, that well was not completed. It is in the process of being completed but it is not completed.

Q It was drilled to the granite, was it not?

A Yes, sir, the granite.

Q The granite had been encountered prior to February 19, 1952?

A I am not aware just what date it was encountered, but the well did go to granite. It went out of permian.

Q None of the data that the Shell Oil Company obtained by reason of drilling that well is reflected in this map?

A No, sir, because this map was already being prepared at that time and all we did was put it on the plate to be blue-printed and used for the hearing, that is the reason we don't have anything in regard to the Cheshire well. I might add this Cheshire Well is in the process of being completed in the Wichita ~~Arbuc~~ Albany which is in the lower permian and did not encounter any Simpson sediments.

Q Mr. Scott, you also presented another map, your Exhibit No. 3 which covers the same, your contour lines cover the same, the top of the McKee sand, is that right?

A Yes, sir.

Q That is covered by your map, Exhibit No. 4?

A Yes, sir, that is right.

Q Was this map prepared under your supervision?

A Yes, sir.

Q And in your Exhibit No. 3 you have set up numerous fault lines, have you not?

A Yes, sir.

Q How did you arrive at setting up those fault lines?

A We put those in through indirect evidence based on trying to arrive at another interpretation in the field. We had no control of those faults I might add other than just indirect control that they might be there. We don't know. We have just used this picture along with the other in our work to try and study the structural configuration of the pre-permian sediments in the area to try and arrive at some logical conclusion as to what it structurally is.

Q Is that a faulting line there represented in Section 22, north half?

A This one right here?

Q Yes.

A Yes, sir.

Q Now, will you explain to the Commission the difference in arriving at that fault line there in Section, north half of Section 22, what data did you rely on to establish it there?

A With regard to putting this particular fault right here, right where it is?

Q Yes.

A As I said, we had no direct evidence that the fault is there. It was put there through no power to control but rather as a postulation as one interpretation.

Q Now, what pattern did you follow. Get back to my

question. What pattern did you follow? What was the difference in your elevations here or your top of your production that caused you to put the line there?

A Mr. Girand, in contouring geologic maps we don't go by any particular pattern. What we try to do is we were in a development program and this field has been certainly under an active development program. We use every tool at our hand. Every idea that we think might work with regard to trying to make these geologic structures have some horse sense to us.

Q I appreciate your answer, but to get back to what data did you use to locate the line?

A We have no direct -

Q (Interrupting) Getting back, what data did you use. Something prompted you to put the line in there, what was it?

A We had no direct data to put the line in there.

Q The line was just put in there at random, is that right?

A They are put in there where we think teutonics might justify faults set in there.

Q Now, on your teutonics, what is that?

A That is where you have pressure, temperatures that are involved that give you forces sometimes because uplifts, that gives you the structures and at times when you have enough force to give you certain uplifts it overcomes the strength

of the formation and causes them to shear and to become faulty.

Q Is that your interpretation based on pressure?

A No.

Q What other factors did you consider?

A Just those that I have given you. Just that we have studied the thing and we have no direct evidence that those faults are there. But we have put them there to try and use this picture to see if it would make any more sense and help us to define the structure interpretation.

Q Now Mr. Scott, isn't it a fact that each of the Sections here represent a dip in your structure?

A Yes, sir, there is an established dip there on this contour map.

Q The dip that is established there is more or less one of the factors used in establishing the fault lines, is it not?

A Not entirely. What you do when you have to put a fault in you have to make the contour lines agree with the amount of throw or displacement that you give the fault on each side.

Q Then it is used as a factor in arriving at your lines there, is it not?

A It could be used, yes, sir.

Q Was it in this case?

A To some extent, yes, sir.

Q Now, you are familiar with the wells up in Section 2 and Section 1?

A Yes, sir.

Q You have given some testimony in regard to those wells, the Gulf Well and the Fullerton Well. There is a much greater dip in this section here (indicating) than in any of the sections shown on the left side, i that right?

A Yes, sir. And you not only find a greater dip on this plat which has the faults on it, but you find a greater dip on the plat that has no faults on it on that side (indicating).

Q Do you show that in your representative map here?

A There is certainly a difference up here than there is here (indicating).

Q I believe you show here (indicating) that the two wells, your rate of dip in there is in the south half of two. Is it expressed in the same proportion as on the west side of it?

A No, it is a greater degree of dip.

Q Is it so expressed in your map?

A Yes, sir, you can see that it is a greater dip.

Q Aren't your lines more or less straightened out?

A Yes, straightened out.

Q Yes, flat on top?

A Yes, I said that the lines do, in other words this dip over here (indicating) is greater than this dip over here (indicating). Now was there another question beside that?

Q There was another question. Would you use the same rate of dip over here as over here?

A The same rate of dip, not necessarily.

Q You do not show that faulting line in there?

A No, sir, there is no fault right in here (indicating). We show a fault here (indicating).

Q In interpreting the map you could have, due to the same rate dip, you could have interpreted a fault line in there, could you not?

A Where, just interpreted a fault where?

Q Coming through a section here more or less from the, down through Section 2 and in to 11?

A Oh, possibly we could have put maybe 30 or 40 more faults in there if we wanted to.

Q If you really wanted to make a more accurate map you could have added more information to this?

A No, sir, we considered that map accurate, we certainly do.

Q If this map is accurate, --

A (Interrupting) I might add that we used that map in conjunction with this.

Q Your Exhibit 3 and Exhibit 4 are entirely compatible, is that right?

A What do you mean?

Q As representative of the area.

A As I said in my statement before I presented these plats as exhibits, Mr. Girand, we don't maintain that these are the only pictures at all.

Q Well, do you maintain that the Exhibits that you have offered the Commission in an effort to enlighten them and help them make a determination in this case are compatible from the standpoint of the information shown?

A Yes, sir, because we use them.

Q You use both of them?

A Yes, sir.

Q Are they the same thing, do they show the same thing?

A Yes, sir.

Q Exactly the same thing?

A Do these two maps show the same thing?

Q Yes.

A No, this one is faulted and the other is not faulted.

MR. GIRAND: That is all.

MR. SPURRIER: Do you have any more direct examination, Mr. Reed?

MR. REED: Justin Reed, with Seth and Montgomery. At this time, I might make a statement to the Commission that

Mr. Scott in the interest of brevity when he testified before didn't go into great detail as to what these plats represent. Presumably the Commission will be able to interpret them from the information put on them, but if you have a question or wish that he go into those, he will at this time.

MR. SCOTT: Was there any question with regard to the exhibits that were submitted?

MR. SPURRIER: I don't think so.

MR. SCOTT: If there should be any after the hearing we will be glad to try and help you.

MR. SPURRIER: Does any one have a question of this witness? Are you through, Mr. Girand?

MR. GIRAND: Through.

MR. SPURRIER: If no further questions, the witness may be excused.

MR. REED: Mr. Scott would like to ask one or two questions of the other side and then present a short summary statement.

MR. SPURRIER: In other words, you want Mr. Fitting to return to the stand?

MR. REED: Is it Mr. Fitting you wish to address your questions to?

MR. SCOTT: That would be all right if it is not out of order.

MR. SPURRIER: He is the expert. Get him up on the stand and ask him if you wish.

MR. GIRAND: I don't mind Mr. Scott and Mr. Reed asking questions. If this is going to be a closing argument I think we ought to close the testimony and get to it.

MR. SCOTT: What I wanted to do was ask a couple of questions about the cross sections and then I do have a closing statement that I would like to make at any time before the case is closed.

MR. GIRAND: I have no objection.

MR. SPURRIER: Very well, go ahead.

Mr. Ralph U. Fitting, resumes the stand, having been previously duly sworn, testified further as follows:

RE-CROSS EXAMINATION

By MR. SCOTT:

Q Mr. Fitting, with regard to the cross section, is it not true that you show a much deeper depth of the granite on the east side of the cross section than you do on the west side of the cross section?

A Yes, sir, which may be due to faulting.

Q I believe in previous testimony that you said that the thickness of the Simpson sand pay was about 400 feet, that the total throw of these two faults was something like 300 or 350 feet?

A That is correct.

Q Would there not be, Mr. Fitting, an overlap of the Simpson sands at the fault shown on the Fullerton Exhibit No. 4 between Shell State No. 10 and 6 and likewise at the fault shown on this Exhibit between Shell State No. 6 and Gulf Leonard 6-E?

A There could be juxtaposition of the sands, yes, but the fact that there was a ceiling fault in the other part of the field that disturbed the water table and the fact that there seems to be a similar situation at this point with clean oil production in Gulf Leonard 6-E and Fullerton Federal Elliot No. 1 at depths greater than the water table in the block to the west I don't believe that juxtaposition could be material.

Q We just wondered in regard to that testimony of the gross thickness of the Simpson sands which was about 400 feet and in regard to the total throw of the faults how it would be possible to consider either of these faults as ceiling faults?

A I have already answered that.

MR. REED: Could you repeat the answer at this time for the benefit of the question asked?

A I just answered it, the prior answer to that.

Q That is your answer?

A Yes.

MR. SCOTT: That is all the questions I have.

MR. SPURRIER: Now, you have a closing argument.

MR. GIRAND: I have a closing statement I would like to make.

MR. SPURRIER: Very well.

MR. GIRAND: If the Commission please, the facts that have been introduced here show that Fullerton Oil Company at the time it started its well and completed its well was a mile and a quarter from the nearest production in the Simpson zone. It shows further that within the time required under your rules the application and the proper form have been filed for the designation of a new pool based on that particular well and based on its total depth, it being the first well completed inthe Simpson east of the fault line which we feel that we have clearly established here through the exhibits.

Following that, the matter has been continued due to conflict in application, one on behalf of the Continental Oil Company and the interpretation placed on the application of the Fullerton Oil Company by the Commission in the Terry Pool.

We have clearly shown today and it has gone unanswered that the Fullerton well is produced from a depth way below the water level on the east side of the fault that we have shown here in Exhibit 4 and also in Exhibit 3, I believe.

For that reason we believe that there has been at least sufficient evidence offered to authorize this Commission at the present time to make a temporary field designation or pool designation of the are covered by the Fullerton and if further and future production or developments in the area there disproves our position we will be the first to come into this Commission and admit that we are part of another pool or part of another area, but at the present time we feel that we have shown more that there is a separate reservoir and there hasn't been anything offered here that there isn't.

Look over here on the west side, right down in the lower Hare Pool and say that is what is up here in Section 1 and 2 will be the same thing that happened down in Section 36 which is not a fact and not a reasonable hypothesis. We believe and we feel it would only be fair that should the Commission see fit to enter an order that it will only be in the nature of a temporary order until further development and that the only reason for a temporary order authorizing a pool designation would be the purpose and sole purpose of fixing an allowable within the area so that no producer in the area will be discriminated against due to the point of completion of his well. There are only two producers at the present time in the Simpson pay in the area involved and that is the Gulf well and the Fullerton well. We feel that the

Gulf are entitled to the same allowable that we established as a discovery well, that any other well completed within the area producing from the Simpson should also have that allowable as long as the area is undetermined as to whether or not there is absolutely a pool.

I think the Commission has heard all types of conflicting testimony here from the geologist and engineers and they all admit that it is indefinite and rather vague. As a matter of fact, one of them was capable of coming in here with two entirely different pictures and said this is our idea. We did settle on one picture and we believe it is right. That is all I have.

MR. SPURRIER: Mr. Scott.

MR. SCOTT: We would just like to say that we have had no ulterior motives in coming before the Commission to oppose the creation of this Terry Pool. We think it should be pointed out that if this pool was created with the boundaries as proposed then Shell would be benefited probably as much as any other operator having acreage within the proposed boundary for we would get the higher allowable for the Simpson wells of ours in the Terry Pool boundary. However, we don't believe that we are entitled to an allowable for McKee Connell wells in the area in question, which would be even

one barrel a day higher than this present Hare Pool allowable.

Shell drilled the discovery well for the north Brunson Pool which was completed in September of 1950 as our Shell State No. 3 in the southwest quarter, southwest quarter of Section 2. In drilling this well we also discovered that commercial accumulation of oil existed in the sands of the Simpson. Therefore we have every incentive to be interested in this case.

We have had production in the State of New Mexico for quite a long time. As an operator in this State, we have always taken an active part in helping to further proper conservation practices. With this in mind, we sincerely request, in the interest of sound conservation and in view of the fact that in our opinion it has been conclusively proved that a new reservoir exists, that the proposed Terry Pool for Simpson production not be created. That is all I have.

MR. SPURRIER: Any further company?

MR. COLLISTON: I would like to make a statement for Continental Oil. Continental Oil will have acreage in the proposed Terry Pool. We have heard the evidence presented by Fullerton and they have not convinced us that a separation exists between the production that would be called the Hare Pool and the proposed Terry Pool. I do not think that they have shown sufficiently that those faults are ceiling faults,

that the throw of the faults does not completely seal off the Simpson section. Continental is therefore against the proposed creation of the Terry Pool.

MR. SPURRIER: Is there any further comment? If not the case will be taken under advisement. I am not sure what I am going to recommend to the Commission, but I believe that we may need further information and I do think that it probably would be wise to re-advertise and set this out exactly since there seems to be conflict which incidentally the Commission was partly responsible for in the advertising, the Terry Pool which overlaps Fullertons previous application. The next case on the docket is Case 341.

C E R T I F I C A T E

I HEREBY CERTIFY that the foregoing and attached transcript of hearing before the Oil Conservation Commission, State of New Mexico, at Santa Fe, February 21, 1952, in Cases No. 331 and 338, consolidated, is a true and correct record to the best of my knowledge, skill and ability.

Dated at Albuquerque, New Mexico, this 26th day of February, 1952.

Reporter