

Case Number.

4207

Application

Transcripts.

Small Exhibits

ETC.

SEP 17 1969

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 27, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of C. W. Trainer)
and DEL-LEA, Inc., for an unorthodox)
gas well location, Lea County, New)
Mexico.)

Case No. 4207

BEFORE: Elvis Utz, Examiner

Transcript of Hearing

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MR. UTZ: Case 4207.

MR. HATCH: Case 4207. Application of C. W. Trainer and DEL-LEA, Inc., for an unorthodox gas well location, Lea County, New Mexico.

MR. MORRIS: Mr. Examiner, I am Dick Morris of Montgomery, Federici, Andres, Hannas and Morris. I and Mr. A. J. Losee are appearing jointly for the Applicants in this case, C. W. Trainer and DEL-LEA an incorporator.

MR. UTZ: Any other appearances?

MR. THOMPSON: Yes, sir. I am Rufus E. Thompson, with Atwood, Malone, Mann and Cooter, of Roswell. We are appearing for Pan-American in opposition of the application. I have one witness; Mr. William C. Wells, Jr.

MR. UTZ: Any other appearances? You have one witness, Mr. Morris?

MR. MORRIS: We have two witnesses.

MR. UTZ: Will all three of you stand and be sworn?

(Witnesses sworn)

W. T. WYNN

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

DIRECT EXAMINATION

BY MR. LOSEE:

Q State your name, please.

A W. T. Wynn.

Q Where do you live, Mr. Wynn?

A Artesia, New Mexico.

Q What is your occupation?

A I'm a geologist.

Q Have you previously testified before this Commission and have your qualifications been accepted as a geologist expert?

A Yes, sir.

Q Please refer to what has been marked as Exhibit 1 and explain what has been shown by this exhibit?

A Exhibit 1 is an ownership map of the Ranger Lake Field, showing the Applicant's three hundred and twenty acre tract in the north half of Section 35 of Township 12 South, Range 34 East, Lea County, New Mexico. The map shows the offset operators, and also shows the wells that have been drilled in the Ranger Lake Field. The Devonian -- no, they haven't all been double circled. There is not a distinction between all of the Devonian wells and the Pennsylvanian wells. There are two pays in this field.

Q The Devonian field, Mr. Wynn, is actually the West Ranger Lake Field; is that correct?

A Yes, sir.

Q And the Penn is the Ranger Lake?

A Yes, sir.

Q We have attached on the board behind us what has been marked as Exhibit 2, and titled "Normal Contour Map." Would you explain what is shown by this map?

A Exhibit No. 2 is a map of the Ranger Lake Field, showing all of the wells that have been drilled in the Pennsylvanian. All the double circled wells are the ones that have been drilled in the Devonian; the wells with the triangle around them are injection wells, and with the Pennsylvanian pay. This map has been contoured on -- on the top of the Devonian, with twenty-five foot intervals, and in order to determine the rate of dip to apply in contrary to this field, there is only one point in the entire field that you can do this. That's between the Amerada Number One State WRA Com, in the northwest quarter of Section 35 and Pan-American Number Four, State A-2, and the northeast quarter of Section 34. Using the rate of dip established by these two wells, the field has been contoured in accordance with the datums at the top of the Devonian on the wells which have penetrated this formation.

The approximate oil water contact has been shown on this map with a red dotted line, according to instructions

from Mr. Ralph Gray.

Q Mr. Wynn, before you go any further, would you point out the two wells with the pointer, that the Pan-American well and the Amerada well from which you took your dip?

A The Amerada is here and the Pan-American well is here (indicating).

Q Now, you say, actually that you put that water contact on based upon instructions from Mr. Gray?

A Yes.

MR. UTZ: Mr. Wynn, the first well, that you said was here (indicating) --- in the northwest quarter of 35?

THE WITNESS: The two wells that I used to determine the rate of dip, one is in the northwest quarter of Section 35, Amerada; Number One, State WRA Com, and the second well is in the northeast quarter of Section 34, Pan-American Number Four, State A-Z.

MR. UTZ: All right, sir.

MR. LOSEE: Now, Mr. Wynn, that first well, the Amerada, is a dry hole in the Devonian?

THE WITNESS: Yes, sir.

Q (By Mr. Losee) And the second well that you mentioned is a producing well, in Section 34, Pan-Am, is a

producing well in the Devonian?

A Yes, sir.

Q Please proceed.

A On this map, the Applicant's location would --- it's estimated that at the top of the Devonian, we would have a datum of about minus eighty-six-eighty-five, which would only be nineteen feet higher than the Getty Number Three, State BF, of Section 27, which has recently been completed as a dry hole.

On the basis of this map, it would appear that the Applicant's location would be a little borderline as far as getting in the field.

Q Now, the Applicant's proposed location is the three hundred and thirty feet south and the six hundred and sixty feet from the west line of Section 35?

A Yes, sir.

Q And is that the location that you would prefer for the Applicant?

A No, sir. I would prefer one 330 out of the northwest quarter of Section 35, as far as safety goes.

Q Now, Mr. Wynn, has this field, in your opinion, been substantially fully developed in the Devonian?

A Within the area of Mr. Trainer's application, I would say that it has.

Q So that you doubt that the contours would substantially change from those shown on this map?

A I think it's rather doubtful.

Q Now, is there any well in this West Ranger Lake Devonian Field, which has three hundred and twenty acres dedicated to it, which you actually show as having three hundred and twenty productive acres within the spacing unit?

A No, sir.

Q They all have something less than three hundred and twenty?

A Yes, sir.

Q Would you give us an example of one or two?

A Well, you can take any of them. The Humble Number One CH, New Mexico State, is in the southeast quarter of Section 27.

MR. UTZ: I wonder, Mr. Wynn, if you will just take a pencil and outline the proration units on the wells you are talking about, and then we can go back later and ---

THE WITNESS: Red? You said red.

MR. UTZ: Anything.

THE WITNESS: Now, you said to outline the --- not the proration unit, but the ---

MR. UTZ: The dedicated acreage.

THE WITNESS: Oh, I see.

MR. UTZ: If you know what it is.

THE WITNESS: I'm not sure I know what it is. Well, other than the exact extent of it. Would this show it?

MR. LOSEE: No, sir. Well, Mr. Gray can.

THE WITNESS: Well, can Mr. Gray do that?

MR. LOSEE: Yes. In effect, Mr. Wynn, then all of the wells producing here from this Devonian field are edge wells.

THE WITNESS: Well, they are on the structure, but you couldn't go out any further from their location and expect to get production in this structure that you see here; no, sir.

Q (By Mr. Losee) Please refer to the Exhibit 3, which is to the left of the normal contour map that you have been testifying about, and explain what is portrayed by this exhibit.

A Exhibit 3 is a cross-section of the --- in the West Ranger Field, from south to the north. It starts on the south with the Amerada Number One State WRA Com, and goes to the Amerada Number One State WRA, to the Phillips and TP Number Twelve Ranger, to the Phillips Number Two West Ranger Lake unit, to the Phillips and TP, Number Eleven Ranger, to the Phillips Number One West Lake Ranger unit, to the Phillips

Number Six West Ranger Lake unit, to the Phillips Number Two West Ranger Lake unit, and to the Phillips Number Four West Ranger unit.

Below each of these wells there is a log of the well -- directly below it. And reduce-scale logs have been used to accommodate proper spacing to facilitate handling and to provide a wide angle view of the subsurface struction, which has been penetrated in the development of this field.

The map scale, 1-H equals five hundred feet is, therefore, two and a half times greater than the log scale, 1-H equals two hundred feet. As a result, the structural distortions, such as the steep dips, recorded in the dip meter log, and the Amerada Number One State WRA Com, are exaggerated. A true representation of the thirty degree dips encountered in the latter well is shown by means of a contour through said well and this map here. (Indicating)

The Permian and the Pennsylvanian markers, which have been connected by these lines, are -- show relatively little distortion until you get down to the Mississippian Section. There is probably an unconformity between the Pennsylvanian and the Mississippian about this point, which would level out the greater structural distortions that you see below that point. This profile is an accurate portrayal of the tranverse shown on

the above representation of the Devonian surface.

It has, however, been necessary to shift this profile insignificantly because of the slight deviation and measurement and alignment, which, unavoidably, occur in the accumulating the printing processes. That traverse, you will see by this dotted line here --- (indicating) -- and the part through here --- (indicating) -- and as it crosses each of these contour lines, the representation of that profile is shown here --- (indicating.)

Q Now, Mr. Wynn, before you go the dip meter; actually, your cross section is a four Devonian and a five Pennsylvanian wells?

A That's true.

Q And one of the Devonian, as your cross section shows, upon examination, has no log?

A No log was run in the Phillips West Ranger Lake unit.

Q Please proceed.

A The reported datums for that field have been shown where these correlation lines are connected by a solid line. The dip meter log has been reproduced in its entirety, alongside the electric log, Amerada Number One, State WRA and Com. And at the side, it's such a small scale that it's rather hard to see -- look at the side, the long and consistent runs of both dip and direction are shown. For example, for a month, 11,608

to 11,722, the dips are generally south twenty-four and a half degrees east at ten degrees. Now, this is in the lower part of the Pennsylvanian, from 11,904 to 11,960, the dips are generally south twenty-seven degrees east at twenty-two degrees.

This is probably right in the top of the Mississippian. From 12,058 to 12,124, the dips are generally south twenty-nine degrees east at twenty degrees. From 12,352 to 12,416, the dips are to the south at about ten degrees. From 12,880 to 12,978, the dips are generally south twenty-four degrees east at thirty degrees. And this takes you down within fifteen feet of the top of the Devonian.

Q Now, would you please refer to your Exhibit 4 --

MR. UTZ: Excuse me just a moment. The well that you ran those on is which well?

THE WITNESS: The Amerada One State WRA Com. I believe it's two thousand eighty feet from the north line and six hundred and sixty feet from the west line of Section 35.

MR. UTZ: That was a dry hole?

THE WITNESS: Yes, sir.

MR. LOSSEE: Would you point that out on Exhibit 4? That location?

THE WITNESS: Here -- (indicating)

MR. UTZ: All right, sir.

THE WITNESS: Should we go to Exhibit 4?

MR. LOSEE: Yes.

THE WITNESS: Exhibit 4 is another map of the Ranger Lake Field, which is also contoured on the top of the Devonian. In this instance, the dip meter data has been applied to the Amerada Number One State WRA Com of which the survey was run. The dip and strike within fifteen feet of the top of the Devonian are therefore established by this dip meter survey, and although there is no control for continuing this same rate of dip across -- or rather farther to the southwest, I've done this because it probably indicates that there is a fault starting at about the top of this steep dip. (indicating)

The intervals used on this map, other than the -- other than those for the dip meter survey are the same that were used on the other map. And down the east side of the field, the wells from on which we have Devonian datums, control the locations of these contour lines until they came into a point where they could be turned into the strike indicated by the dip meter. And there is approximately the same field alignment on both Devonian maps.

There is a different interpretation of the top of the structure, because the dip meter data has pulled the contours

to the southeast, and I have -- I have closed the top contour in the upper part here, minus eighty-six-twenty-five, on the basis of the Pan-Am Number Four A-Z, which causes me also to close the smaller segments to the southeast of the Pan-Am well. The approximate original water contact also shown on this map with the same datum, minus eighty-seven-seventy-five, in accordance with instructions from Mr. Gray ---

Q (By Mr. Losee) Mr. Wynn, in the drilling of that well, in the northwest quarter of Section 35, was there any material-hole deviation noted?

A Yes, sir; there was quite a bit --- up to seven degrees, I believe.

Q Which direction?

A Well, it's generally accepted --- I think, that the bit will climb when it encounters the dip.

Q And that's what it did?

A I would say so.

Q Why, Mr. Wynn, have you presented two maps to the Commission?

A Mr. Trainer's application on this map looks like a borderline location, as far as getting into the field. The other map was drawn to see if there was --- well, just to see what the difference in the interpretation might be, by applying

the dip meter datum. On the basis of Exhibit 4, and apparently he would have a very good location.

Q Do you think he should -- in other words, the substantial difference between the two maps is the application of the dip meters, really --

A Yes, sir.

Q -- survey on Exhibit 4?

A Yes, sir.

Q Do you think someone should rely exclusively on the dip meter?

A No, I don't. The dip meter is a useful tool, but it's -- after all, you are only reading the dip bit in the bore hole, and when it comes to drilling a deep well, like this, I wouldn't -- I would rather, personally, for safety's sake, to get into the field, I would rather pull the location in. It might be risky to depend on that alone.

Q Mr. Wynn, let me ask you again, referring to your Exhibit 4, and the contours shown on that; is there any well in the field that has three hundred and twenty acres dedicated to it, or any well in the field that actually has three hundred and twenty acres within its proration unit?

A No, sir.

Q Did you prepare Exhibits 2 through 4?

A Yes, sir.

Q Mr. Wynn, have you had any experience with Devonian fields?

A Yes, sir, quite a bit.

Q In what fields in particular have you had any experience on?

A Well, I have -- I suppose I have watched as many as forty or fifty wells that are drilled to the Devonian or deeper; and I was the development geologist for the Stanlon on the 3-bar field in Andrews County, Texas, which was a Devonian field. I completed about fifteen wells in that regard.

Q Have you studied Devonian fields in southeastern New Mexico?

A Yes, sir. And in West Texas, too.

MR. LOSIE: I have no further questions of this witness.

MR. UTZ: Any other questions of the witness?

MR. THOMPSON: Yes, sir.

MR. UTZ: Mr. Thompson.

CROSS EXAMINATION

BY MR. THOMPSON:

Q Mr. Wynn, in your opinion, what would be the top of

the Devonian at the proposed location?

A On the Exhibit No. 2, Mr. Thompson, I have shown an estimated top of minus eighty-six-eighty-five. On Exhibit 4, I can only say that it would probably be above a minus eighty-six-twenty-five, because there is no control inside there to us actually.

Q Have you considered the relationship of the top of the Penn to the top of the Devonian in the wells in the area?

A Yes, sir. I think this cross section shows that.

Q And from the top of the Penn and the top of the Devonian, you feel are relatively consistent?

A Well, this represents my opinion -- this Exhibit 3.

Q Mr. Wynn, considering the Pan-American well in the northeast quarter of 34, what was the difference from the top of the Penn and the top of the Devonian?

A Well, let's see -- I don't have Pan-Am --

Q All right, sir. Then, considering the Amerada well in the northwest quarter of 35, what was the difference between the top of the Penn and the top of the Devonian?

A In the Amerada, in the northwest quarter?

Q Yes, sir.

A Well, now, it hasn't gone to the Devonian. Do you mean the Com?

Q Yes.

A All right. Let's see if I can read it. I place the top of the Penn at a depth of about ninety-nine-forty or fifty, I believe. And the Devonian would be at twelve or twelve twelve-nine ninety. That's the difference between the two.

Q Approximately, how many feet of difference from the top of the Devonian and the top of the Penn?

A Three thousand fifty feet.

MR. UTZ: Did you say ninety-nine fifty or ninety-nine forty at the top ---

THE WITNESS: I believe it's ninety-nine fifty as close as I can read it -- my glasses don't pick that up too good. About ninety-nine fifty.

MR. UTZ: Did we clear that up? You did say ninety-nine fifty?

THE WITNESS: Yes; ninety-nine fifty.

MR. THOMPSON: Which would leave a difference of three thousand forty ---

THE WITNESS: Yes, sir.

Q (By Mr. Thompson) Directing your attention to the Phillips well in the southwest quarter of Section 26; would you go through the top of the Penn and the top of the Devonian on that

well, and what is the difference between the two?

A The top of the Penn is -- it looks like ninety-eight ninety, and the -- I can't read it. It's minus eighty-six-fifty-eight. Ralph, do you have those completions?

MR. GRAY: Yes.

THE WITNESS: That's twelve eight-twenty.

MR. THOMPSON: So, then would that leave a difference of, between the top of the Penn and the Devonian of twenty-nine thirty feet.

THE WITNESS: Yes -- where are you figuring?

Q (By Mr. Thompson) Here (indicating.)

A Yes.

Q In your opinion, Mr. Wynn, at the proposed location, what would be the difference between the top of the Penn and the top of the Devonian?

A Well, that depends on which map I take. I presented two maps to show that there is a possible difference there.

Q All right, sir. Would you give us that opinion based on the cross section that you have?

A Well, I would be using a detonator statement on the cross section, of course. And you asked me previously what the datum would be on top of the Devonian, and I told you I didn't

know; I thought it would be above eighty-six twenty-five, because as you can see here, these are the same maps. There is no control inside this closure, but it will probably be something like eighty-six twenty-five.

Q What is the difference between the top of the Penn and the top of the Devonian in the proposed location?

A If this interpretation should be correct, it would probably be something on the order of this Phillips well that we just discussed. That was Number Two West Ranger Lake unit, nineteen eighty from the southwest line of Section 26.

Q That is the well where we had the difference of twenty-nine thirty feet, is that correct?

A Yes, sir. Something on that order.

Q All right, sir. Then, if we had, in your opinion, in the top of the Devonian, at eighty-six twenty-five, that would place the top of the Penn approximately twenty-nine thirty less than that?

A Something like that.

Q So, then, that would be at approximately fifty-six ninety-five, at the top of the Penn?

A Yes.

Q All right, Then, considering your Exhibit No. 2, would you give us your opinion as to the top of the Penn at

the proposed location and the difference between the top of the Penn and the top of the Devonian?

A Well, at the top of the Penn, I would say, it would be about the same.

Q Mr. Wynn, do any of your exhibits show a well which was drilled into the Penn on the northwest quarter of 35, approximately a few hundred feet south of the proposed location?

A Yes, sir.

Q Do any of your exhibits show the top of the Penn formation there?

A Yes, sir.

Q What do you show the top of the Penn to be?

A It's about ninety-eight ninety.

MR. HATCH: Identify that well, please.

THE WITNESS: Amerada Number One, State WRA, six sixty from the north of Section 35.

MR. THOMPSON: All right, sir. I'm sorry, but I missed what you said the top of the Penn was there.

THE WITNESS: Ninety-eight ninety.

Q (By Mr. Thompson) All right. Then, in your opinion, the top of the Devonian would be, at that well, would be ninety-eight ninety, plus approximately twenty-nine thirty.

A Which is the twenty-nine thirty?

Q That is the Phillips well --

A From the Penn to the -- yes, sir.

Q In your opinion, the top of the Devonian would be approximately 12,820?

A I don't know what the surface elevation is, but I suppose that's about it.

Q And where with relation to the 12,820 do you find the gas-water contact in the Devonian at the well in the north-west quarter, which was only drilled into the Penn?

A Where do you find the oil-water contact?

Q Where are you going to find this gas-water contact in relation to the 12,820?

A We've drawn it at a minus eighty-seven-seventy-five. I don't know where it is now.

Q Directing your attention to your Exhibit No. 2, if my memory serves me correctly, you estimated the difference between the top of the Penn and the top of the Devonian, on the Amerada dry well, which, in the northwest quarter of 35, and approximately thirty-forty, and at the Phillips well, in Section 26, you estimated that difference at approximately twenty-nine thirty. Does your structural interpretation show the top of the Penn on the Devonian -- at the top of the Penn on that

exhibit to be approximately the same as the top of the Penn in the Amerada well, and the 35, which only went to the top of the Penn?

A I'm sorry, Mr. Thompson, I didn't follow you.

Q Would you compare your interpretation on Exhibit No. 2 at where you think the top of the Penn would be on the Phillips well in Section 26, and the Amerada well, which only went to the Penn in the 35?

A Would I compare the Pennsylvanian tops?

Q Yes, sir; compare your structural interpretations?

A On the Devonian or on the Penn?

MR. UTZ: Your question was on the top of the Penn; was it not?

MR. THOMPSON: Yes, sir.

THE WITNESS: If you want a comparison on the top of the Penn; yes, sir. I can tell you that's the top of the Penn in both of these wells. In the Amerada Number One, State WRA, six-sixty to the northwest of Section 35, the top of the Pennsylvanian is about ninety-eight ninety. On the Phillips Number Two West Ranger Lake unit, nineteen-eighty from the southwest line of Section 26; the top of the Pennsylvanian is -- it's about the same depth, ninety-eight ninety.

Q (By Mr. Thompson) Do you have any of these depths on a subsea basis?

A No, I don't.

Q Do you have any information on the Pan-American well?

A No, sir, not with me. You can figure the datums if you want; I can give you the elevations.

MR. THOMPSON: All right, sir. I believe that's all we have.

MR. UTZ: Any other questions of the witness?

MR. NUTTER: Yes.

MR. UTZ: Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:

Q Referring to your Exhibit No. 2 there.

A Yes, sir.

Q Is that the approximate original gas-water contact depicted in red around the east perimeter of the pool?

A We have shown that to be so; yes, Mr. Nutter.

Q Do you have any knowledge as to whether the original gas-water contact has moved up or down or stayed the same?

A Well, I would think that it has moved up.

Q Now, have you taken a planimeter and defined the amount of acreage that lies northwest of that red line in that

quarter section of that section?

A Mr. Gray is going to answer that very question, Mr. Nutter, if that's all right.

Q Well, that's what I wanted to know. I will refer my questions to Mr. Gray.

A Yes, sir.

MR. UTZ: Any other questions?

REDIRECT EXAMINATION

BY MR. LOSEE:

Q Mr. Wynn, have you seen a contour on the top of the Pennsylvanian in this, what is the Ranger Lake field?

A Yes, sir.

Q Does it configure exactly like the contours on top of the Devonian?

A No; it does not.

MR. LOSEE: No further questions.

MR. UTZ: You may be excused, subject to recall, of course.

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RALPH GRAY,

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

DIRECT EXAMINATION

BY MR. LOSEE:

Q State your name, please?

A Ralph L. Gray.

Q Where do you live, Mr. Gray?

A Artesia.

Q What is your occupation?

A Consulting Petroleum Engineer.

Q Have you previously qualified and testified before this Commission?

A Yes, sir.

MR. LOSEE: Are his qualifications acceptable?

MR. UTZ: Yes, sir.

Q (By Mr. Losee) Please refer to what has been marked as Exhibit 5, Compilation of the Well Data, and explain what is portrayed by this exhibit?

A Exhibit 5 is a tabulation of well data for all of the wells in the West Ranger Lake Devonian Gas Pool. This shows pertinent well data, such as the location, the date the well was completed, and the total depth and elevations,

and various information that we usually call pertinent on a well. I won't go to the trouble of commenting on all of the information shown on this exhibit, but there are certain things that I would like to specifically point out. The discovery well was the Texas and Pacific, West Ranger No. 2, which was located 1980 from the south and west lines, Sections 23, Township 12 south, Range 34 east. This well was drilled to a total depth of 12,940 feet, and four and a half casing was set at 12,907. Completion was made on the open-hole section. On initial potential, this well flowed 2,270 mcf of gas per day, plus 281 barrels of condensate, plus 29 barrels of water, which I don't think is significant -- it could possibly have been drilling water at that time. This well has been producing since -- or was completed, rather, on August the 8th, 1966. Subsequent to that time, Phillips drilled their West Ranger Lake Unit No. 1 Well in Section 26, and this well was completed on August the 1st, 1967. Then, they drilled their West Ranger Lake Unit No. 2 Well, located 1980 from the southwest of Section 26. This well was completed on February the 20th, 1968. The No. 2 well was completed for a calculated absolute open flow potential of 37,988 mcf of gas per day, plus an unreported amount of condensate.

The Amerada State WRA Com No. 1, which Mr. Turner

has been referring to at various times, was completed as a dry hole on March the 31st, 1969. On drillstem tests, this well produced a 2,000 foot water blanket, plus 270 feet of mud, plus 2343 feet of formation water. The Phillips' Tower Com No. A, No. 1 Well, located 1980 feet from the southwest of Section 34, was completed in March of 1969, as a dry hole. This well encountered the top of the Devonian at a datum of a minus 8589, and was drilled to a depth equivalent to 8713. The operator was -- I'm sorry. I'm going to have to back up on that just a minute here. I meant to refer to the Getty Oil Company, but what I have been reading to you is correct on the Phillips Well.

MR. UTZ: Is that the Phillips' Com A 1?

THE WITNESS: I beg your pardon?

MR. UTZ: Is that the Phillips' Tower --

THE WITNESS: Phillips' Tower Com A No. 1; yes.

It was completed for a potential of 3,354 mcf of gas per day, plus 43 barrels of condensate. The Getty Oil Company, State BF No. 3 Well, located 1980 feet from the north, and 990 feet from the east lines of Sections 27, was completed July the 4th, 1969, as a dry hole. Of course, the Phillips' Tower Well was completed as a producer. The Getty Well, encountered at the top of the Devonian at minus 8704, and was completed at a total

depth of equivalent to a minus 8758.

The Getty Well, on a drillstem test, made some gas to the surface, which decreased throughout the test, and it recovered six barrels of condensate. And they reversed out 6,000 feet of formation water. I think that's all we need to comment on.

Q (By Mr. Losee) Mr. Gray, is the Getty Well; was it located at an unorthodox location?

A Yes, sir.

Q Do you know what the footages were on it?

A Yes. The footage was 1980 from the north and 990 from the east.

Q Were there any other unorthodox locations in this Field?

A Yes. Besides the Getty, the Pan American State AZ No. 4, was drilled at a location of 990 from the north and east of Section 34, and this also was an unorthodox location.

Q That Pan American Well is in the spacing unit to the west of the proposed location of the Applicant?

A Yes, sir.

Q Now, there has been some testimony concerning the Amerada State No. 1 Injection Well on the northwest quarter of northwest quarter of Section 35 at a location of 660 from the --

out of the corner, which would make it 303 feet from the Applicant's proposed location --

A Yes, sir.

Q Do you think there is any risk involved in drilling close to an injection well?

A Yes. First, may I identify this well correctly? It was originally drilled as an Amerada Well, but the well is now the Phillips' Ranger Lake Unit, No. 9-W1, and it's a water injection well -- and your question was --

Q Is there any risk in drilling near an injection well?

A Yes. I think there is definite risk in this case. I have obtained some water injection figures from the May, 1969 report, and during the month of May, they injected 25,785 barrels of water, at a Wellhead pressure of 2400 psi. Also, the volume of water injected, and the accumulated volume, injected through May, amounted to 1,650,392 barrels. So, this is a significant amount of water and it's being injected at a relatively high pressure, 2400 pounds surface pressure; and it's been my experience with water injections, that under these conditions, you can certainly expect some abnormally high pressures in the zones in which the water is being injected. So, if a well is drilled close to this location, as soon as the bit penetrates the zone that

is taking the water, I feel quite certain that there is going to be a problem, because this is an abnormally high pressure and in all probability, the mud would probably be emptied from the hole, and certainly cementing operations would be very difficult under these conditions.

Q Would you recommend that the Applicant drill any closer than the proposed 330 feet from this well?

A I think 330 is a little bit hazardous -- even at that distance. But, certainly, you wouldn't want to drill any closer.

MR. UTZ: Mr. Gray, would you give me the location of the well you are talking about, again?

THE WITNESS: Well, I don't have the exact footage --

MR. LOSEE: It's 660, up on the corner.

THE WITNESS: It's 660 from the north and 660 from the west line of Section 35. This was originally drilled as an Amerada Well, and subsequently, it was taken over by Phillips.

MR. UTZ: It is a Phillips well now?

THE WITNESS: At the present time, it is designated as a Phillips Ranger Lake Unit No. 9-W1.

MR. NUTTER: Well, Phillips is conducting a waterflood operation --

THE WITNESS: Yes, sir.

MR. NUTTER: -- in the Pennsylvanian formation, is that right?

THE WITNESS: Yes, sir.

MR. NUTTER: And this is one of the injection wells in that program?

THE WITNESS: Yes, sir.

MR. UTZ: Is this injecting only in the Pennsylvanian then?

THE WITNESS: I beg your pardon?

MR. UTZ: Is this injecting only in the Pennsylvanian then?

THE WITNESS: As far as I know.

MR. UTZ: You may proceed, sir.

Q (By Mr. Losee) Please refer to what has been marked as Exhibit 6 and explain the data which is shown on this exhibit.

A Exhibit 6 is a tabulation, showing oil, gas and water production by months for each of the Wells in the West Ranger Lake Devonian Gas Pool. There are two pages to this exhibit. The first page goes through the month of May, 1969; and shows accumulative figures at the bottom of the page through this period.

The second page of the exhibit shows the production data for the months of June and July, 1969. I might comment briefly on all of these figures. The original discovery well, the TP West Ranger Unit No. 2 Well, of course, has been producing for a period of well over two years. You will note on the Table that no oil or gas production is shown for the first five months of 1969. And it's my understanding that this well started making water and the operator has been unable to successfully flow the well for the first part of 1969.

The highest production has been produced from Phillips West Ranger Lake Unit No. 1 and No. 2 Wells. The No. 2 Well is a north offset to the proposed Trainer Tract there. During the early part of 1969, the No. 1 Well produced, roughly, about six million cubic feet of gas per day, along with about 500 barrels of condensate per day. And the No. 2 Well was produced at a rate of approximately eight million cubic feet of gas per day, along with approximately 1,000 barrels of condensate per day. So, you can see the withdrawals during this period were very heavy in this area. The Table also shows that the first water production appeared in the Phillips West Ranger Lake Unit No. 1 Well in the month of May, 1969. At least, that was the first month

that it was reported. And there was a small amount of water reported in January of 1969, for their No. 2 Well, and a very significant amount of water, approximately 100 barrels a day, was shown starting with the month of May, 1969.

The cumulative gas recovered from the No. 2 Phillips' Well, just to the north of the Trainer acreage, through May, 1969; the gas amounted to 2,264,395 mcf, and the amount of condensate or oil recovered, was 257,333 barrels. So, you can see that there has been a very significant amount of production taken out of that area.

Now, during the months of June and July, 1969, production has been drastically curtailed by some of these operators, and I don't attempt to tell you why. Perhaps they felt they were withdrawing too much. But, as an example, during July, 1969, the Phillips Ranger Lake Unit No. 1 produced an average of 800 mcf of gas per day along with 70 barrels of condensate. The No. 2 Well produced approximately a million mcf of -- or 1,000 mcf per day, along with about 90 barrels of condensate per day.

Q Mr. Gray, compared to the earlier months of this year and prior production history from that Ranger Lake No. 2, it's been cut back to about one-tenth of what it was producing?

A Pretty close to it; yes, sir.

Q Please refer to your Exhibit Number 7 and explain the data shown on this exhibit.

A Exhibit 7 is a Table, showing all of the bottomhole pressure information, which I have on the wells in the West Ranger Lake Devonian Gas Pool. The discovery well, the TP West Ranger Unit No. 2, initially had a pressure of 4937 psi, and the data was minus 8764. The Phillips West Ranger Lake No. 1 had an initial pressure of 5017 psi and this same well showed an initial shut-in pressure on drill-stem test of 5033 pounds. So, I feel that the initial reservoir pressure was perhaps in the neighborhood of 5033 pounds. This Table also shows that wells which were completed later in the life of the pool, such as the Phillips Tower No. 1, and other wells, have initial reservoir pressures of well below the pool initial pressure, which is an indication that the pressure throughout the reservoir has been declining and more or less indicates good communication throughout the reservoir. The most recent pressure was on the Phillips West Ranger No. 2 Well, in April of 1969. The pressure was measured at 4177 psi.

Q Would you please refer to your Exhibit 8 and explain what is portrayed on this graph?

A Exhibit 8 shows bottomhole pressure, performance history, on two wells, which are located in the Four Lakes Devonian Gas Pool. This pool was developed much earlier than the West Ranger Pool, so we thought it would be beneficial to see what the history was like in an older field, but one that was close to this one -- it may even possibly be connected to this one. The Four Lakes Devonian Pool is approximately three miles north of the West Ranger Lake Devonian Gas Pool.

On Exhibit 8, the bottomhole pressure history for the Humble South Four Lakes No. 2 Well, is shown by the solid curve, and over a period, extending from 1957 to 1967, a ten-year period, there has only been a slight decline in bottomhole pressure, indicating a very active water drive to be present.

We have taken another well in the pool, the Humble South Four Lakes Unit No. 3 Well, and the bottomhole pressure of this well is shown in the graph with the dotted curve. As you will see, the pressure history on the No. 3 Well shows a much more drastic decline and this could be indicative of two things, really. It could be that the No. 3 Well is separated in some manner from the rest of the field, by permeability value or possibly, through faulting.

Or, it's possible that the No. 3 Well has produced in quantities which are larger than the ability of the reservoir fluids to refill the space void, which really is what we usually call a partial water drive. So, I think that from this graph we can say that very definitely there is a very active water drive present in the Four Lakes Devonian Pool.

Q Are the physical properties of the Four Lakes Pool and the West Ranger Lake, somewhat similar?

A Yes; they are very similar. The information that I have shows that the Four Lakes Pool had an original reservoir pressure of 5,113 psi. And as we previously stated, we estimated the original pressure in the West Ranger Lake Pool at 5033 pounds. The reservoir temperatures are very similar, in the range of 200 to 204 degrees Fahrenheit. The condensate produced has a gravity of 54 to 56 degrees in both pools, the producing gas-oil ratios of the wells in both pools show similarity; being in the range of 5 to 6,000 cubic feet per barrel. And the specific gravity of the gas is in the neighborhood of .69 in both pools, which again, are very similar.

Q Mr. Gray, have you made a study of the mechanism in the Devonian Pools in southeast New Mexico?

A Yes, I have. We wanted to get a very good idea

of just how extensive the water drives were in the Devonian pools, so, we have consulted three editions, entitled "A Symposium of Oil and Gas Fields," which has been published by the Roswell Geological Society. The edition, which was published in 1956, lists a total of 32 Devonian pools, and 27 of these are listed as having either a water lock drive or a partial water drive. Four pools are listed as having a volumetric or solution gas-type drive mechanism, but of these four, three are in the southeastern part of the county, well away from the area that we are talking about. And one well was near the town of Roswell, over in that area, which again, is out of the area we are interested in.

Also, it listed one pool as having an unknown type of drive, but performance later has proven that this pool has a water drive present or actually a partial water drive present. The edition published in 1960, listed fifteen pools, and eleven of these were listed as having a water drive or a partial water drive. Of the three volumetric-type pools, two of them are located in the southeastern part of the county, and one of them is listed as a volumetric type. Later, the performance has shown that actually this pool had a partial water drive present.

In the 1967 edition, it listed seven additional

Devonian pools; four of these were listed as water drive, and three were listed as a volumetric type drive, although all three of these, again, were outside of this area. So, there is overwhelming evidence that Devonian pools in this area do have either very active drives or at least partial water drives.

Q What is the effect of the water drive; the partial effect of the water drive mechanism on this application?

A Well, the flow mechanism, within a reservoir that is under water drive, is entirely different from the flow mechanism that exists in the volumetric type reservoir. And ordinarily, we consider that an unorthodox location should have some penalty attached to it, because of having an advantage by being closer to the lease line, but while this is the case, in a volumetric type reservoir, I think that we can show that definitely it may not have an advantage at all in a water type reservoir.

Q That subject is the discussion of your Exhibit 9. Would you explain what is shown on that exhibit?

A Exhibit 9 is a diagram sketch, showing fluid movements in the reservoir and a typical water drive type reservoir. The conditions that we find in this type of reservoir is that the oil and gas accumulates, and the highest

structural position in the reservoir, and then, there is a contact with the water. The water exists below the oil and gas; as oil and gas is removed from the upper portions of the structure, the water influx into the reservoir or water encroachment, will occur either vertically or from the sides, and will move in a direction of the structure. The effect, of course, on an area, for example, that has not been developed as quickly as other parts of the reservoir, such as the Trainer Tract here -- the effect is the oil and gas has actually been moved from under this lease by other wells in the pool, so that at the time that the well is drilled, it has suffered some drainage. And if a well were drilled on a orthodox location, chances are it would be drilled below the water content in this case.

Now, as the oil and gas moves upstructure, you can see by the diagram that once the water invades the well and the predominate production is water, well then, all of the oil and gas that remains in an upstructural position, but on the lease, will not be recovered by this well, and it will, in time, move upstructure to be recovered by other wells.

Now, for example, if we look at this on the contour map, should this Trainer well be drilled at this location

shown, once the water invades up to the datum of this well, you can see that there is an area upstructured from the well that will still contain oil and gas, but this well will not be able to recover, and it will be lost. And it will go on and move. So, in this type of mechanism, and operator really deserves some advantage by having a closer location. Because if he doesn't drill close he certainly is going to lose a significant part of his oil and gas to these other operators.

Now, another factor that comes into the picture is the effect that what we normally refer to as water coning, is -- usually occurs on wells that are closest to the water contact and what happens is that the water cones upward, and invade a part of the reservoir that still substantially has a large amount of oil and gas of saturation in it, but there is a preference for the water to be produced, rather than the oil and gas. So, that's indicated on the diagram by a well here (indicating), so, when you consider that there has already been a -- probably a significant quantity of oil and gas removed by the early development, and the fact that this well would be closer to the water contact, and it would probably have early coning, you can see that an operator on a low structural position is certainly at a disadvantage

in this case. And while you might think of an unorthodox location as giving him an advantage, well, he really needs all the advantage he can get, and more, to be able to produce his own oil and gas.

Q Mr. Gray, Mr. Wynn said you gave him the original gas-water contact. Would you explain how you --

A Well, of course, these things are approximate values. For example, I take note that Pan American has estimated the location of this at a minus 8780, and I think that maybe that Phillips, in some of their past work has placed it maybe at a minus 8800. So, it is not something that we can locate precisely, but on the basis of datum points in the two early wells, the Texas and the Pacific Ranger No. 1 Well, for example, which was drilled 660 from the south and the east of Section 23; this well was completed as a dry hole. Or rather than a dry hole, a wet hole, really; it produced water. And it encountered the top of the Devonian at a minus 8766, it was bottomed at a minus 8846. So, you would think that the water would be somewhat higher than the minus 8766, but, on the other hand, the Phillips West Ranger No. 2 Well was completed as a producer, water-free. And this well was bottomed at a minus 8781. So, we have to say that possibly the water contact is in an area of

minus 8775 -- or somewhere in that general area.

Q Mr. Gray, were you able to determine where the present gas-water contact is in this field?

A No; we have attempted to do so, but we have found that the production of water, the datum points have been over a wide range of values and there is an indication that the water encroachment for the water coning, or perhaps both, in various areas have been at different rates, and we are unable to establish any kind of datum at this time that we consider a reliable figure for the contact at this time.

Q Now, the Getty Well which was drilled in Section 27, in the northeast quarter, would you discuss the effect of this water movement, as far as this Getty Well is concerned?

A Well, structurally, the Getty Well was high enough so that you would have expected the operator to have been able to make a commercial completion at that location. The Getty encountered at the top of the Devonian a minus 8704; well above the initial contact. And it is my feeling that certainly had this well been drilled early in the life of the pool, when some of the other wells were drilled, the operator would have encountered, and undoubtedly would have gotten a

good well there. But, they were unable to make a successful completion, even at that high datum, and I think it's an indication that the water has encroached; and has come up to a sufficient high, but it's invaded the portion that originally had oil and gas, and now the operator, at the location they drilled, were unable to make a well.

Q So, actually, Mr. Gray, this original water contact that is shown on Exhibit 2 and 4, was picked by you and placed on the maps at your discretion?

A Yes.

Q Earlier, Mr. Wynn was asked to point out the spacing units for each of the wells, and he did not have this information available. Would you take a pencil, in red, and locate the spacing units on the Exhibits 2 and 4? Either of which --

A May I use yellow since we already have some red on the maps?

MR. UTZ: I don't think color would make a bit of difference.

MR. LOSEE: Yes, sir.

A The yellow lines will signify acreage dedicated to each of the wells. It's not a proration unit in itself --

MR. UTZ: Circle the well that is dedicated to the

area --

THE WITNESS: It might be kind of hard for you to see out there, but it's pretty evident up close. Getty had 150 acres dedicated to it. And there was 320 acres dedicated to the Humble CH No. 1 Well.

MR. UTZ: How many acres was that, Ralph?

THE WITNESS: 320.

MR. UTZ: And the other was what?

THE WITNESS: 350. The Pan American has 260 and it's cut off here on the end (indicating). So, it doesn't go quite down to the bottom. Now, there is 320 in the Phillips. Now, I think that shows all of the tracts.

MR. LOSEE: Now, all of them, with two exceptions, had 320 acres dedicated to the well, and those two exceptions are the Getty Well, with 150 acres, and the Pan American with 260?

THE WITNESS: Yes, sir.

Q (By Mr. Losee) Using the normal contour map as a basis for the first portion, have you prepared Exhibit 10, which contains some data with respect to the productive acre or acres above the original gas-water contact in each of these dedicated areas?

A Yes, sir. Exhibit 10 shows two tabulations; the

top part is information relating to the normal contour map, and the lower portion to the dip meter contour map. And these tables show the approximate acreage that was considered to be productive, initially, for each of these wells. And that information is shown on the first column. You will note that there aren't any of these wells that show they have 320 acres productive. They vary from 45, which we estimate on this map, for the Trainer location, to a maximum of 216 for the TP West Ranger No. 2 Well.

The second column shows the ratio of the productive acreage of the Trainer Well, to each of these particular wells, and we have used these factors to be multiplied against the 320 to obtain the figures which we show in column three, and we designate these as the Trainer equivalent productive acreage to a 320-acre tract. In other words, that's more or less getting the productive acreage to a basis of 320 acres, rather than the existing productive acreage. The average for column three here shows that the equivalent acreage -- the average equivalent acreage for the Trainer productive acreage, is 77 acres. The lower part of Exhibit 10 shows that the average equivalent acres of the Trainer Tract will be 137 acres.

Q Now, you took your productive acres on the upper

portion from the Exhibit 2 normal contour map?

A Yes, sir.

Q And you took your productive acres on the lower portion from your Exhibit 4, which contains the dip meter information?

A Yes, sir.

Q What is the purpose of the presentation of this exhibit, Mr. Gray?

A Well, we recognize that the Commission will probably feel that there should be some adjustment made in the acreage dedicated in an unorthodox location such as this, where it's evident that there is a much smaller productive area involved than in a regular 320-acre tract, but we also recognize none of the wells in the pool have pooled 320 acres. In fact, it's quite fair to penalize one operator for not having 320 acres, when all of the other wells have something below the normal spacing acreage. So, we have attempted to put this on some basis that we feel is more realistic, rather than to say that the tract actually has so many acres that are productive.

Q Do you have anything further to offer on this Exhibit 10?

A No, sir.

Q Were Exhibits 1, 5 through 10 prepared by you or

under your direction?

A Yes, sir.

MR. LOSEE: We move the introduction of the Exhibits 1 through 10 at this time.

MR. UTZ: Without objection, Exhibits 1 through 10 will be entered into the record in this case.

(Whereupon, Applicant's Exhibits 1 through 10 were entered into the record.)

MR. LOSEE: I have nothing further.

THE WITNESS: Mr. Losee, let me make one more comment. We didn't get into this water point thing and read it in detail, but I would just like to point out how erratic this water movement is. For example, the Phillips West Ranger Lake Unit No. 2 is bottomed at a minus 8691, which is very high structurally. Yet, this well has started making water at this time. There are other wells which are bottomed much lower than that well which haven't started making water yet. So, I just want to emphasize that it is impossible at this time, to really establish any water position. That's all.

MR. UTZ: We will take a short break at this time.

(Whereupon, a recess was had at 10:30 o'clock A.M., and the Hearing was resumed at 11:00 o'clock A.M.)

MR. UTZ: We will open the cross examination.
Or are there any questions?

MR. THOMPSON: Yes, sir.

MR. UTZ: Mr. Thompson.

CROSS EXAMINATION

BY MR. THOMPSON:

Q Mr. Gray, directing your attention to Exhibit Number 9; isn't it also true that the question of location of gas from the offsetting leases during the time that the well or the location was productive --

A Well, I'm not -- you are assuming that the well will be drilled at the location that the Applicant proposes?

Q Yes, sir.

A I don't really believe I can state whether it would or wouldn't, really, to start with there. I'm not sure just what the movement of the fluids would be. Now, if he's pretty close to water -- of course, this coning effect is going to occur -- if he's lucky and the thing is real high, he might drain back part of that fluid that got away from him when he didn't have his well drilled there, but I can't really accurately tell you just exactly the area of influence away from the bore hole that would occur. I don't think anybody can say, really.

Q Isn't it true that a higher producing rate increases the tendency to cone?

A Yes.

Q Well, do you believe that this well should be restricted in its low rate so as to lengthen the life and decrease the coning effect?

A Yes; the Applicant is very much aware of this and he tells me that even if he granted a full allowable, you might say, he still proposes to produce his well in a reasonable manner and he recognizes you can ruin a well by producing too heavily.

Q All right, sir. Are you also of Mr. Wynn's opinion that Exhibit Number 4 would be more speculative than Exhibit Number 2?

A No; I really don't know which is the more accurate. It's possible that one may be more accurate than the other or it may be a combination between the two. But let's not kid ourselves -- everybody knows that there is about a thousand different ways you can draw a contour map. If we knew accurately ahead of time, just exactly how that thing existed, then certainly there would be a lot of dry holes eliminated. Unfortunately, none of us can predict just exactly which is the most accurate map.

MR. THOMPSON: I believe that's all the questions we have.

MR. UTZ: Any other questions?

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Gray, who is the purchaser in this field?

A Phillips purchases most of the gas. I think it's possible that Warren might be buying some. I understand that there may be other gas purchasers who are close to the area. They are close enough that there might be a choice of purchasers.

Q Do you know how they determine their takes?

A No, sir.

Q Do they have some pipe line formula or do they just take all that's available or --

A No, I can't tell you how they determine their takes; but you can refer back to the production table and you can see the Phillips wells were producing very heavily at one time, then all at once they cut them back. I don't know by what method they determine how much gas they will take from each well.

Q It doesn't look like it's according to the acreage; does it?

A No, you can't correlate the production, certainly,

with the productive acreage.

MR. UTZ: Any other questions?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Gray, the acreage that is dedicated to the well, insofar as the producing wells is concerned, is the same for all with the exception of the Pan American well?

A Yes.

Q Now, Mr. Gray, referring to your Exhibit Number 10. What you have done here -- we will just take the top half, to start with; what you have done here is planimetered the productive acreage from Exhibit Number 2, is that correct?

A I don't have a planimeter. I haven't actually planimetered it. I have determined it by the square method.

Q An eyeball planimeter?

A Which is an accurate method.

Q And what you have done, you have determined the area upstructure from the red; the water-oil contact?

A Yes, I have determined the area from the unit or tract that's above or higher than the red line there.

Q And then, in the case of the Trainer location, you have figured that there would be 45 acres northwest of the red line?

A On Exhibit Number 2, that's the case, and in the

case of Exhibit 4, I think there is 78 acres above.

Q And then, I guess -- I'm having a little difficulty following the two columns there. Then, you have determined that the West Ranger Lake Unit No. 2 has 216 productive acres. Then, what is this ratio of productive acreage from the Trainer to this well; that would be --

A Well, that would be --

Q -- the ratio of 45 to 216?

A Ratio of 45 to 216.

Q And then, what is the next column?

A Well, taking that figure of 208 and I've multiplied it three times 320, which is a normal spacing unit.

Q I see. Now, if we take the five units, which are standard locations, that would be the term 16, the 212, and the 156, and the 173, and the 186, and averaged those, we find that they average well there would have 189 acres. That's the average well as a standard unit. And if we took that as unity, we would determine then, that 45 -- the ratio of 45 to 189 would give some figure --

A Yes, sir.

Q Now, if we took the unity and then the average of the wells that have the standard location, would that be a reasonable ratio to determine?

A Yes, I think it would.

Q All of the wells are on standard units, with the exception of the one, Pan Am well. Actually, it has more acreage dedicated to it than the average standard location well has. But you have calculated that it has 195 productive acres?

A Yes, sir.

Q Now, you mentioned the Four Lakes Devonian pool. It has been considered to be a retrograde condensate pool, Mr. Gray. Do you consider this one to be a retrograde condensate pool also?

A I classify the pools as identical as to types.

Q Well, the Commission has limited the total withdrawals from the Four Lakes Devonian pool for many years. In Order number 1621, dated March 25, 1959, limit the takes to five million cubic feet of takes a day, or takes for the month to five million times the number of days in the month. And the purpose for that, according to one of the findings, is to prevent reaching the dew point prematurely, and allow the water encroachment to keep up with the withdrawals to maintain the pressure in there. It evidently has worked on one well, anyway.

A Yes.

Q On your Exhibit Number 8, do you think that this is

a pool where the withdrawals should be limited by the Commission?

A Yes; I think there should be some limit on this.

Q There has evidently been a voluntary withdrawal in the last few months?

A Apparently so. Like I say, I can't really state what prompted this reduction, or whether it will be permanent or not. But it's my opinion that there is a limit to the amount of withdrawal that should be taken from these wells.

Q Now, if you limit withdrawals to the rate of encroachment, you can produce a well that has a bottom water drive and influx from the bottom, that you show on Exhibit 9, without a serious water coning development, too; can't you?

A Up to a point. Now, look at the Phillips' No. 2 Well. See, it's bottomed at a minus 8691. And yet, this well is making water now at this time. Now, that's really a high point for water to be coming in and so, water entry, there is so many things that affect water entry. For example, the existence of fractures. In one particular area, you may have a vertical fracture extending down into the water table. If you are close to a situation like that, why, you are going

to get early water coning. So, it's a very unpredictable thing. But, generally speaking, it is -- you can regulate withdrawals to a point there.

Q Now, the well that you said was making water, that's the Phillips West Ranger Lake No. 2. That's the well 1980 from the south and west of Section 26; correct?

A Yes. That's the well that's directly north of the Trainer Tract.

Q Which would be evidence of water encroachment in the southeast, approximately --

A Well, I would rather look at that particular case as a cone, rather than a normal encroachment situation.

Q Well, isn't it a fact that most of the Devonian structures in southeast New Mexico, the main water encroachment is from the west side?

A I'm not really in a position to study that.

Q I think in most cases, the majority of the encroachment is from the west. There is some encroachment from the east, and you may have it here, since this well is making water now. Do you think that the encroachment on the west side there has come up the structure and that's the reason that Getty wasn't able to make a well there?

A Yes, I think that's probably -- it's too bad they didn't drill their well closer to the line, because if it is

they are not going to recover the oil and gas on their lease because they got too far away --

Q They won't even get to recover their water now --

MR. NUTTER: I believe that's all.

MR. UTZ: Any further questions?

MR. THOMPSON: Yes, sir. I have one or two more questions.

RECROSS EXAMINATION

BY MR. THOMPSON:

Q Mr. Gray, have you actually seen a fluid analysis of this reservoir?

A Only just parts of the data taken -- well, I've seen data taken from the Four Lakes Pool, I believe. I'm not certain that I have seen the samples from this pool.

Q And you don't know positively that this is a retrograde --

A Well, in the case of the Four Lakes Pool, it was originally classified as an oil pool, and the wells produced an unusually high amount of oil or condensate for the amount of gas produced. Now, later, they had a hearing and reclassified that pool, and a gas or retrograde type of gas pool. Now, I take note that in the West Ranger Lake Devonian Gas Pool, some of these wells have produced as high as 178

barrels of condensate per million feet of cubic gas, which is an unusually high content. Normally, we don't find that high a liquid content, but from all the information that I have, I can't really see any difference in the characteristics of the two pools. And, of course, they are only three miles apart and there is some evidence that they may be connected there. But on the basis of the information I have, I would have to say that both the pools are similar in characteristics.

MR. THOMPSON: I believe that's all.

MR. UTZ: The fact that three of these wells began to make water at about the same time they curtailed production, could lead one to believe that this is the reason they were curtailed.

THE WITNESS: It's a possibility.

MR. UTZ: Any other questions? The witness may be excused. Do you have any further testimony?

MR. LOSEE: No, sir. No further testimony.

MR. UTZ: Do you have a witness?

MR. THOMPSON: Yes, sir.

WILLIAM C. WELLS, JR.,

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

DIRECT EXAMINATION

BY MR. THOMPSON:

Q Would you state your name and address?

A William C. Wells, Pan American Petroleum Corporation, Fort Worth, Texas, as a petroleum engineer.

Q Does the jurisdiction of the Fort Worth office of Pan American include the land in question?

A Yes, sir.

Q Have you previously testified before the New Mexico Oil Conservation Commission and made your qualifications a matter of record?

A Yes, sir.

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

MR. UTZ: Yes, they are.

Q (By Mr. Thompson) Are you familiar with the matters involved in the application of C. W. Trainer and DEL-LEA, Inc.?

A Yes, sir. I am.

Q Briefly, Mr. Wells, would you state your position with Pan American with respect to that application?

A Pan American is opposed to the granting of the unorthodox location requested by Trainer, which is 330 from the north line and 660 from the west line of Section 35.

We feel that this is going to cause drainage from offsetting leases, due to the well being at an unorthodox location. Also, we feel that Mr. Trainer does not have a full 320 productive acres underlying his lease as required by the Statewide Rule.

Q Mr. Wells, do you have an exhibit to offer this morning?

A Yes, I do.

Q Was that exhibit prepared by you or under your supervision?

A Yes, sir.

Q Mr. Wells, directing your attention to Exhibit Number 1; what is it and what does it represent?

A Exhibit Number 1 is a structure map, contoured on the top of the Devonian of the West Ranger Lake Area. We show on this map a current producing Devonian gas wells, color coated blue; the proposed Trainer, 320-acre spacing unit is outlined in red, and the proposed Trainer location is shown by a red arrow.

Q Mr. Wells, is the proposed well within one mile of the producing gas wells in the Devonian formation?

A Yes, sir, it is. It is located approximately 2900 feet from the Humble State CH No. 1, northwest; about

1800 feet from the Pan American A2 No. 1 -- No. 4, located in the northeast quarter of Section 34, about 3000 feet southwest of the Phillips West Ranger Unit No. 2.

Q Is there any known gas-water contact in this formation?

A Yes, sir. We estimate that the deepest that the oil-water contact was -- of the original oil-water contact was at a minus 8780 feet. We base this determination primarily on testing from one well; the Texas-Pacific No. 1 West Ranger Unit, located in Section 23. This well, upon completion, to a total depth of minus 8781, at a calculated absolute open flow at 2270 mcf per day, plus 281 barrels of condensate, plus 29 barrels of water.

Now, this well has since, I believe, watered out -- shut in due to water production.

Q Mr. Wells, has this gas-water contact shown on your exhibit?

A Yes, sir, we have shown this in the particular portion or area of the field under question, designated by a blue line. This is located in the northwest quarter of Section 35.

Q Based upon the gas-water contact level, do you have an opinion as to the number of productive acres in the

Devonian formation in the north half of Section 35; and if that is so, what is that opinion?

A Yes, sir. Based on our structural interpretations, I estimate there are approximately twenty-six productive acres beneath the north half of Section 35.

Q What percentage would this be of the normal 320 acres?

A Approximately 7. -- I believe it's 7.95 per cent.

Q Mr. Wells, was there anything else in your investigation which indicated that the entire north half of Section 35 in the Devonian formation was not productive?

A Yes, sir. Amerada, in March of 1969, drilled a dry hole in the southwest quarter of the northwest quarter of Section 35. This well, on drillstem test, it was drilled at a total depth of minus 8986 subsea. On drillstem test, below the top of the Devonian, minus 8844 to minus 8846, recovered only 270 feet of mud, plus 2340 feet of water. Therefore, the Devonian was found well below its gas-water contact for this location.

Q Based on your investigation, what is your opinion as to the structural relationship between Amerada's dry hole and the location under question this morning?

A I feel that the proposed location could be as much

60 to 65 feet upstructure from the Amerada dry hole.

Q In other words, Mr. Wells, the Devonian located to the east and downstructure from the proposed location, would be below the minus 8780 gas-water contact, and that's nonproductive?

A Yes. I estimate that probably the deepest Devonian would be encountered at this location, would be minus 8775, and as we have mentioned we have an 8780 gas-water contact. So, anything to the east and downstructure would consequently be nonproductive.

Q Mr. Wells, I notice that there is a difference between the structural interpretation of your map and Exhibit 2 of Mr. Trainer's. Would you care to comment on that matter?

A Yes. I think any difference in this particular portion of the field -- in other words, the north section of 35 is probably minor in the interpretation of the top of the Devonian. Our interpretation and, of course, both maps are strictly interpretive; there is no valid or distinct control to the east, or very little control -- we, in building our map, consider the top of the Penn in the interval and the development of the interval between the top of the Penn and the top of the Devonian. We saw a tendency in this area for a draping effect of the Pennsylvanian, over the Devonian; a thickening of this interval, as you dropped offstructure.

Now, consequently, we show this -- the Devonian somewhat lower than Mr. Trainer's map shows. I wouldn't disagree too seriously with their interpretation in this particular core section.

Q Mr. Wells, do you believe the correlative rights of the Pan American and others would be affected by the granting of this application?

A Yes, sir. I do. As we mentioned earlier, standard spacing out here -- or our Statewide Rules call for a location of 660 from the side line and 1980 from the end line. Mr. Trainer proposed to crowd the lease to the north by 330 feet, and our lease to the west by 660 feet. I feel that under any situation this is going to cause some drainage of gas from these offsetting leases or migration of gas from these offsetting leases to Mr. Trainer's well. I also believe that the higher the allowable or the more productive acreage granted or dedicated to this well -- of course, the higher the producing rate would be on the establishment, either of field rules or gas contract or purchase contract, and with a higher rate, the amount of drainage or migration is going to be considerably larger.

Q Have there been any other situations in this area where it was the opinion of the Commission that there were not

320 productive acres?

A Yes, sir. As mentioned earlier in testimony this morning, Getty, in drilling its State BF No. 3, located in the northeast quarter of Section 27, which was in an unorthodox location, received a 46.875 per cent penalty for their acreage prior to drilling the well, based on a non-productive acreage. Pan American, in a case of May, 1968, had our acreage reduced by some 18.75 per cent, and we are only allowed to assign 260 productive acres to our well. I would like to make one point here. The map that we present here today, as our Exhibit 1, is very similar to the map presented by Pan American at our hearing in May of 1968. There had been a few minor changes made to consider recent developments in the field, but we don't feel that these recent developments have changed our productive acreage situation.

Phillips drilled their Tower No. 1 in the southwest quarter of Section 34, which came in very high to our previous interpretation. There has been no development on the southeast side and the southeast corner of our lease, which would indicate that the structure should be changed in this area whatsoever. Mr. Trainer's map does bring the structure up to the northwest, thereby cutting off some of our productive acreage, but I don't feel that he has any basis for this. There

is no control in this area.

MR. THOMPSON: Mr. Examiner, we would ask that administrative notice be taken of that Order.

MR. MORRIS: Mr. Examiner, we would concur and ask that the entire record in Case 3750 which was Pan Am's application for an unorthodox location, be noticed administratively as part of the record in this case.

MR. THOMPSON: That's agreeable.

MR. UTZ: We will take notice. So noted.

Q (By Mr. Thompson) Do you wish to offer any other evidence?

A No, sir. I don't believe I have anything further.

Q Then, it would seem reasonably apparent that only a small portion of the DEL-LEA acreage is productive, unless the application was granted, the effect would be to entitle the production at the same rate as the offsetting wells, which have a larger productive acreage as resulting in migration.

A Yes, if this application was granted.

Q What is your recommendation in this matter, Mr. Wells?

A My recommendation is, first, that this application not be granted. That the application for unorthodox location

not be granted. I do feel, however, if the Commission sees fit to grant the application, that DEL-LEA and Trainer should be penalized in their allowable for this well, and in the productive acreage assigned or dedicated to this well by some 92 per cent. Now, this corresponds to the estimated 26 productive acres, which we feel is productive on this lease. We don't have any -- as I mentioned earlier, we don't have any serious quarrel with their Exhibit Number 2, their structure maps showing approximately 45 acres. I think the difference between this -- these two figures of productive acreage is strictly interpretative. I would recommend, however, that its -- it's been brought up in previous testimony that several other 320-acre units or 320 dedicated acres are hanging out over the gas-water contact. I don't feel that they should be considered at this time in this case. I feel that there are several other operators involved here who aren't present and who are not able to defend the structure or their interpretation of the productive acreage beneath their leases.

I think that I have stated Pan American's feelings about the productive acreage contained in our lease, and I believe the structural map contained in the previous case concerning our lease would reflect our feelings.

MR. THOMPSON: Mr. Examiner, we move the admission of Pan American's Exhibit No. 1.

MR. MORRIS: No objection.

MR. UTZ: Without objection, Exhibit 1 will be admitted in this record.

(Whereupon, Pan American's Exhibit 1 was admitted into evidence.)

MR. THOMPSON: I believe that concludes our testimony in this case.

CROSS EXAMINATION

BY MR. UTZ:

Q You spoke about the people not being able to defend themselves. They could have been here; couldn't they?

A I believe that you probably have statements from these people. I don't believe that they were aware that the different structural interpretation would come up today.

Q Do you know of any reason why they couldn't have been here today to defend themselves?

A No, sir. I don't.

Q I believe the Commission has given them that opportunity.

Mr. Wells, I presume when you drew this oil-water contact here, you had confidence in your position of the gas-

water contact?

A Yes, I do.

Q It would seem to me, then, that the wells for the proposed locations; they would just about drill into the water --

A That's my feeling on it; yes, sir.

Q If you did that, you wouldn't have any drainage problems, would you?

A No, sir, but in case they came in five or ten feet -- we show them to come in five or ten feet above our estimated gas-water contact. We don't know at what rate the water is advancing in this reservoir. We do feel that if they did happen to come in five or ten feet high and receive a full allowable, they could suck gas from all three offsetting leases, prior to watering out of their well.

Q More than the 26 acres you show there?

A Yes -- Yes, sir. Of course, this would depend on the action of the water in the reservoir, but I feel they would have an excellent opportunity for drainage.

Q In your opinion, is this water-oil contact moving upstructure?

A I haven't seen any evidence other than the Getty Well, located on the northwest side of the structure to indicate that it is. We don't -- as far as I know, there is no

definite tie as to the upward limit of the original gas-water contact. I feel that our 8780 is as low as it could have possibly been. As I said, I think that the -- to the northwest side is only indication that we've had of the gas-water contact moving upstructure.

As Mr. Gray mentioned earlier, I feel that Phillips' problems in Section 26 are associated primarily with coning. Their Well No. 1, located in the northwest quarter of Section 26, I believe, periodically dies out as you swab it down and, I believe, that they are letting it sit for awhile and then producing again water-free. So, I think it's probably a situation of coning.

Q Do you consider this pool a water drive?

A Yes, I do.

Q Isn't it considered -- the water structure on all the water --

A Yes, sir.

Q -- water drive pools unless it moves in from this side or the other?

A Yes -- I just haven't seen any indication -- any definite indication of this.

Q And if the oil-water contact is as close as you expect it, it would water out pretty good?

A In my opinion, it would. I wouldn't drill that, though --

MR. UTZ: Any other questions?

MR. MORRIS: Yes, sir.

MR. UTZ: Mr. Morris.

CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Wells, whether we look at the interpretation that you have on your Exhibit Number 1, showing 26 productive acres, or whether we look at one of our Exhibits, showing more productive acres, it would appear that we are in agreement that there is some recoverable gas and condensate underlying the north half of the Section 35, and under the Trainer and DEL-LEA properties, and our only difference here is in what amount; is that correct?

A Yes, sir.

Q I think this is absolutely obvious, but based upon your interpretation, if we drilled a well in a standard location in this north half of Section 35, there would be no way that a well drilled at an orthodox location could recover the gas and condensate underlying our acreage; is there?

A Yes, sir. That's true.

Q Now, if we do not drill a well or are not permitted to drill a well, to recover the gas and condensate underlying

our tract, what will happen to that gas and condensate?

A I can't state for sure. My estimation would be that it would be in advance of the gas-water contact. This gas would probably move off your lease onto offsetting leases. That's an estimation.

Q And what well is located closest to the acreage that you show to be the productive acreage on your Exhibit Number 1?

A The Pan American AZ No. 4.

Q It's reasonable to assume, isn't it, Mr. Wells, that Pan American would stand to recover more than anyone else in the -- more than any other operator in the field, the gas and condensate that underlies the Trainer and DEL-LEA Companies?

A This is possible. Yes, sir. It is.

Q So, it would follow from that, would it not, Mr. Wells, that a well drilled at our proposed location, even though you believe it to be a marginal location, would give us a better opportunity to protect our correlative rights by giving us the opportunity to recover the gas and condensate underlying the north half of Section 35?

A Yes; as opposed to not drilling a well at all, it would. Of course, we go back to the drainage of the offsetting

lease, too.

Q I would like to talk with you a minute about your contours on your Exhibit Number 1. You stated in your direct examination that this swing of the contours to the west, swings in rather conveniently for your position here -- (indicating)?

A Yes, sir.

Q -- to the west part of Section 35?

A Yes, sir.

Q And was based upon a comparison of the thickness of sections that exist between the top of the Penn and the top of the Devonian --

A Yes, sir.

Q -- in this area?

A Yes, sir.

Q Well, have you compared the top, this difference in thickness between the top of the Penn and the top of the Devonian in each of the Devonian wells that are shown on your map?

A In each of them in this particular area? Especially in this particular area, yes, sir.

Q What difference did you find, for instance, in the -- on this French well in the northeast quarter of Section 35?

A Well, of course, the French Well did not penetrate the Devonian, it went directly into Penn.

Q All right. What wells did you consider --

A We considered the Amerada -- starting out with the Pan American Well in the northeast quarter of Section 34. Now, our picks on the top of the Penn, in the distance, would agree with those stated by your witness earlier. We use a different top of the Penn base --

Q I'm asking you for the differences of the thicknesses that you did --

A All right. In the Pan American Well, we found that there were approximately 2563 feet between the top of the Penn and the top of the Devonian. In the Phillips West Ranger Lake No. 2 of Section 26, located in the southwest quarter, we found that there was approximately 2600 feet. Let me point out that that well is downstructure from the sections that -- in the Amerada dry hole, of the northwest quarter, Section 35, we found approximately 2714 feet of thickness. We have estimated, based on following the top of the Penn, from the Pan American Well in Section 34 to the French Well in Section 35, we feel that we have been, I guess pessimistic would be the word, in giving an estimated thickness on 2715 feet between the Penn and the Devonian. This is an estimated thickness,

based on the structural -- similar structural positions.

Q Did you consider the difference of the thickness over here on the well located in the southwest quarter of 34?

A No, sir, I didn't, because I feel that there is something a little different happening in this well than is happening on the wells on the east side.

Q But even on the three wells that you did consider, you have approximately a 150 feet of difference here between the Fan Am Well and the Amerada dry hole --

A Yes, sir.

Q -- and 114 feet difference between the Phillips Well and the Amerada?

A Yes, sir, this is my contention.

Q So, even on the wells that you did consider, you find a variance in the thickness of the 114 or 150 feet.

A Yes, sir. This is my contention, but as you move downstructure, that interval well thickens, and I believe this is a pretty commonplace occurrence. You see this occasionally, and I think, looking strictly at our well, and at the Amerada dry holes, that this is evident.

Q Well, even as between your well and the Phillips Well, you have what, some 37 feet --

A No, I believe that's 9 feet -- I'm sorry, 37 feet -- no, about 39 feet, yes, sir. And it's also downstructure by some 48 feet from our well.

Q You are saying that there is a direct mathematical relationship between your structural position and your thickening on sections?

A I'm saying that there is a direct relationship. Now, whether you can pin it down to a direct relationship between your thickness and the interval and your structural position --

Q Did you prepare a structural map on top of the Pennsylvanian in connection with the preparation of this hearing?

A I did not prepare the map. I reviewed a previously prepared map on the top of the Penn, yes, sir. I have seen one; yes, sir.

Q Your configuration is by no means identical to the Devonian structure?

A No, sir, it isn't.

Q Now, we are talking about, according to your figures here, at least a 2500 feet section; and yet, we are talking about a difference here, as far as the location of these contours, of the difference between your map and our

map, is less than a hundred feet, is that correct?

A Yes, sir.

Q In other words, our tolerance, when you are talking about mathematical tolerance, you would be talking about a hundred divided by twenty-five hundred, as being the margin of error in the thickness of section that you are using as the criteria for the location of your Devonian structure?

A Your numbers are right, but let me take a minute to make a point on that if I could. When trying to determine the structure, where you don't have exact subsurface control, you go to a number of means to try to establish some degree of control. And certainly following some trend or some geological phenomena is much more accurate than sketching with a pencil without regard to this.

Now, I've stated previously that we had no serious quarrel with your interpretation on number 2, but I feel that we did have a basis for the contour or the structure as established on this map.

Q Did you consider the dip meter information available from the Amerada Well?

A No, sir, I didn't.

Q Do you disagree with Mr. Wynn's use of that dip meter information?

A I would agree with one statement that he made. I believe he stated something to this effect: That he dealt with dip sometimes and sometimes they are not reliable in this type of structure. However, in other fields, I have seen this thing work and I have seen it be completely 180 degrees out of kilter. I don't have much faith in the dip meter. It's just thrown right in front of me.

Q Do you believe there is a possibility that a fault occurs in this area?

A I don't know. I haven't seen it put on any logs.

Q Have you examined the log of the Amerada dry hole?

A I have looked at the logs, yes, sir.

Q Did you see evidence of faulting in that log?

A No, sir, I didn't.

Q Mr. Wells, I would like to show you Exhibit 1 in Pan American's case 3750, and ask you to look at this area here around the proposed location and Amerada's injection well here --

A All right.

Q Now, Amerada's injection well -- that's the well right up next to our proposed location, it was drilled and had been completed at the time that Pan American's Exhibit Number 1 in Case 3750, had it not?

A Yes, sir.

Q And the Pan American was in a position at that time to correlate between the Devonian tops and the Penn tops in preparing that Exhibit Number 1, was it not?

A Yes, sir, it was.

Q Now, that Exhibit Number 1 in Case 3750, does it show the abrupt swing of Devonian contours in toward the west, to the degree that you have shown it here on your Exhibit 1 on this case? Does it not?

A No, it doesn't. I believe I explained that. If you will notice on our Exhibit Number 1 at that time, the Amerada dry hole located in the northwest quarter of Section 35 had not been drilled. If you will remember, from our conversation a minute ago, one of the thicknesses I quoted between the top of the Penn and the top of the Devonian was based on this well. We estimated that there is a thickness of 2714 feet or calculated thickness of 2714 feet, between this well. The well is only located -- I don't have the exact distances, but I would imagine it would be 12 or 1300 hundred feet from the Penn Well, located in the northwest quarter of the northwest quarter of this Section. I believe that it can be or that you could say from this that these wells are that the interval between the Penn and the Devonian should be similar between these two wells. Maybe not to the exact foot, but

looking at the structural position of the two and other wells in the area -- the whole difference is that Well No. 2, the Amerada dry hole had not been drilled at the time this map was drawn.

Q All right. It really comes back to the point, Mr. Wells, that you, yourself, had stated before that there is really not a great deal of difference, except purely an interpretive difference, between your Exhibit Number 1 and our Exhibit Number 2 or 4 in this case?

A There is a lot of difference, but I wouldn't quarrel too seriously with your exhibit in this particular portion of the field. I can't agree with it in other areas.

MR. MORRIS: That's all.

MR. UTZ: Any other questions?

MR. THOMPSON: I have one or two.

REDIRECT EXAMINATION

BY MR. THOMPSON:

Q Mr. Wells, directing your attention to the Amerada well, which was dry holed, I believe you said that the difference between the Penn and the Devonian was 2714 feet, is that correct?

A Yes, sir.

Q What did you find the top of the Penn to be in the

well which is now designated the water -- injection, which is now designated the Phillips Ranger Lake 9-W1?

A Minus 6076.

Q Would the difference from the top of the Penn on that, as the same -- assuming it was the same --

A Yes.

Q -- as the Amerada, would that leave any production of the proposed site?

A No, sir, it wouldn't.

Q Do you have any further comment?

A I would just like to re-emphasize one point. We do feel, in order to minimize, if this application is granted, in order to minimize the drainage from the offsetting leases, particularly Pan American and Phillips, we feel that a substantial penalty, based on the actual productive acreage beneath the Trainer Tract, should be imposed on this well.

MR. THOMPSON: I believe that's all we have.

RECROSS EXAMINATION

BY MR. UTZ:

Q Mr. Wells, how would you suggest imposing that penalty?

A I feel that each -- as I mentioned earlier, and I think I better rephrase what I said. I feel that each lease or

each tract in this field, as far as productive acreage goes, must stand on its own. And I would rather see each tract as required and as proven, be penalized for its nonproductive acreage, as we have for our State AZ No. 4, than to have the Trainer Well compared with the estimated productive acreage based on one map. That was for other operators and imposed back on itself that direction.

Q Are you inferring then, that the pipeline will take in accordance with the dedicated acreage?

A It's going to depend on who they are contracted with. Now, if they -- I don't know who they are making arrangements with for purchaser. If their purchaser includes a ratable take clause, as governed by productive acreage, well, certainly it would. Now, field rules could come up at any time in here and at that time we would like to have the safety provisions included then, even if it turns out that their purchaser can take all the -- all that they will produce and doesn't prorate them back on -- based upon productive acreage. Field rules are very possible.

Q Who is your purchaser?

A Phillips.

Q And do they take according to dedicated acreage?

A This is my understanding. I talked to the man with

Phillips -- I believe, it was Monday. And it is my understanding -- I know that the takes have been -- from our wells have been substantially less. And this was shown on their exhibit, mentioned earlier, than the other wells in the field, which have the capacity. I believe that probably we are actually producing less due to capacity than our prorated portion of the purchaser's take should be.

Q Does Pan American cut back on their gas production due to their water encroachment?

A In this particular case?

Q Yes.

A I don't believe -- I know that we haven't had any water drawn from our well. I am sure that if we had an indication that we were, that this was happening, that we would cut back.

Q You have started producing some water?

A No, sir -- No, sir. To my knowledge, we have never produced any water from our well.

Q I show here on Mr. Gray's Exhibit 6, 65 barrels of water in May --

A Exhibit 6 --

Q 58 barrels in June and 124 barrels in July. Do you take issue with these figures?

A No, sir. I can't take issue with them. I wasn't

aware that we were. I'm sure that our field people are watching this though, in view of Phillips performance up there. I feel sure that our production will be governed to minimize any coning.

Q You, at this time, are not suggesting prorating this pool in order to limit the size of the tract, is that correct?

A No, sir. This, of course, would come under the pool rule.

MR. UTZ: Any other questions?

MR. NUTTER: Yes, sir.

MR. UTZ: Mr. Nutter.

RECROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Wells, do you know whether Pan American's reservoir engineering department has made any effort to determine if this is a retrograde condensate reservoir or not?

A No, sir. I don't know that.

Q You don't know whether they have run any fluid analysis on these or not?

A I'm sure we have a fluid analysis; I just didn't check for it.

Q And whether the dew point has been determined in

the event that it is a retrograde?

A I would assume that it has. I feel sure that we do have a fluid sample. As I said, I --

Q Do you have any opinion, yourself, as to whether or not this is a retrograde condensate reservoir or not?

A No, sir. Not without reviewing things a little closer, I wouldn't.

MR. NUTTER: That's all.

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

MR. LOSEE: May I call Mr. Wynn for a moment?

MR. UTZ: Yes, sir.

REDIRECT EXAMINATION

BY MR. LOSEE:

Q Mr. Wynn, in referring to your Exhibit Number 4, which was a contour map applying the dip meter in the Amerada Well, the term "speculative petition" has been used. Did you consider the use of the dip meter as a tool as speculative?

A No, sir.

Q Is the dip meter run on this Amerada Well, the only dip meter, to your knowledge, run in this West Ranger Lake Devonian?

A To my knowledge, it is.

Q Now, other factors that you might have considered or did consider in the preparation of this map, as I understood your testimony, were the hole deviations of some seven degrees in the Amerada Well?

A Yes, sir. It's seven or eight degrees, I believe was the maximum.

Q And in the Amerada-Pennsylvanian, or Phillips Pennsylvanian injection wells up in the northwest corners of the section --

A Yes, sir.

Q --- was that hole straight?

A Very straight, yes, sir. According to his deviation.

Q Now, would that indicate to you that there was a sharp dip at least in the Devonian, to the southeast in Section 35? In the north half of it?

A Well, I think the dip, the sharp dip in the dip meter data, that shows steep dip there -- they are certainly compatible.

Q Now, are faults presently frequently, or infrequently in the Devonian pools in southeastern New Mexico?

A As far as I am concerned, I have seen very few of them that are not faulty.

Q And I believe your testimony was that it was probable

that there was a faulting line along in the south portion of the north half of the Section 35?

A In my opinion, it is quite likely.

Q And do you consider your Exhibit 4 as a reasonable interpretation, based upon all of the information available to you?

A I think it's a reasonable interpretation; yes, sir.

MR. LOSEE: I believe that's all.

MR. UTZ: Any questions of the witness?

MR. THOMPSON: Yes, sir. Mr. Wynn, did you run a directional survey along with the inclinational survey?

THE WITNESS: We have got dip meter log right here and you can see for yourself.

MR. THOMPSON: I believe that's all we have.

MR. UTZ: The witness may be excused. Statements in this case?

MR. THOMPSON: I believe that Humble has a statement.

MR. HATCH: The Commission has received a telegram from Phillips addressed to the Commission. "Re Examiners Meeting, Wednesday, August 27, 1969, Document NBR 24-69. Case NBR 4207. Application of C. W. Trainer and DEL-LEA, Inc., for an unorthodox gas well location, West Ranger Lake (Devonian) gas pool, Lea County, New Mexico. Phillips Petroleum Company

hereby enters objection to the assignment of a standard 320 acre unit dedication to the proposed unorthodox gas well location 330 feet from north line and 660 feet from west line, section 35, Township 12 South, Range 34 East, in the subject pool. Phillips Petroleum Company believes that the structural advantage obtainable over adjacent producer at this unorthodox location should be offset by a reduced dedicated acreage assignment comparable with prior decisions on similar unorthodox location request in this field."

Now, this statement was submitted by Paul W. Eaton in behalf of Humble Oil and Refining Company, in reference to Case Number 4207. "Humble is opposed to granting an exception to Rule 104-C11 to permit drilling of a well in an unorthodox gas location, 330 feet from the north line and 660 feet from the west line of Section 35, Township 12 South, Range 34 East, West Ranger Lake-Devonian Gas Pool, Lea County. We object to the unorthodox location in view of the possibility of resultant inequitable drainage and infringement of correlative rights.

If sufficient data is presented for the Commission to grant this unorthodox location, we propose that equitable acreage be assigned this well's proration unit, considering the proposed location's structural position as well as the

dry hole which exists in the southwest quarter of the northwest quarter of Section 35. We also request that a directional survey be required in the well at total depth at the operator's expense and that a copy of the survey be furnished all offset operators as well as the Commission."

MR. UTZ: Any further statements?

MR. THOMPSON: Yes, sir. We would also like to request that if the application is granted for the drilling of the well that an inclinational and a directional survey be run at Mr. Trainer's and DEL-LEA's expense, since as previously indicated in the testimony, in the well just to the south, there was a significant inclination. And we would like to be furnished with a copy of those.

One further matter. They are only 330 from the lease line and we feel that the inclination could result in the crossing of that line.

MR. UTZ: Mr. Losee?

MR. LOSEE: The Applicant's are here, as in all unorthodox locations -- the right to drill the well and to recover the oil and gas, which everyone admits is under their tract. We recognize in doing so, the rules of the Commission provide that they will take such action as is necessary to offset any advantage obtained by this unorthodox

location. These locations have been submitted to the Commission and testimony today; Pan Am would dedicate 26 acres to the well. Our Exhibit 2 would dedicate 45 acres to the well; our Exhibit 4, applying the dip meter, would dedicate 77 to the well, but we really think that Exhibit 10, in a field of this nature, where it has been fully developed and where the contours are fairly reasonably established at this point, would say that the advantage that we obtained should be in ratio to the productive acres and the other units within the field. We are not here asking that anyone else's acreage be reduced down. We are simply asking that ours be made an equivalent in a direct ratio to what their productive acreage is. And our first exhibit, using the normal contour map, Exhibit 2, would allocate 77 acres; the use of the dip meter would allocate 137. I think that would be substantially true if it were limited solely to the 320 acre units, as Mr. Nutter discussed in his examination.

I also think that Mr. Gray touched on a point in his testimony that where a fringe well or a downstructure well -- there is no real advantage to be gained in an unorthodox location. He's already penalized by his structural position in this Applicant as well as anybody else's downstructure. And because -- the gas-oil is moving upstructure of the

water. We think that the statements offered by Pan American's attorney, Mr. Guy Buell, in Case 3750, is probably a better argument than I can offer for the use of our Exhibit 10. If you will please bear with me, I will read it.

"May it please the Examiner --" This is from Pan American Petroleum Corporation -- "I don't know whether I'm honored or chagrined to find us allegedly in a classic position with regard to an unorthodox well location." He was responding to Mr. Kellahin's statement. "I do know this. We are determined to protect our correlative rights of our royalty owners. I also know this; that we have frankly and honestly submitted all the facts that have been available to us to the Commission here today. Mr. Ford readily admitted that his interpretation in the southern area of Section 34; the subject section of this application is highly interpretive. But, he did his best -- it's more than anyone else here has done today. You have no data of any stature whatsoever in the record that says that Mr. Ford is wrong. I don't blame TP and Phillips one bit for proposing this application. If I operated three wells upstructure of our unit, in what is obviously going to be an effective water drive reservoir, I would object to Pan American trying to save its reserves from our upstructure wells from other upstructure wells."

And that's precisely what we are doing here today. And I submit to this Commission that if you approve this unorthodox location, without any penalty whatsoever, we are still going to lose reserves, under our unit Phillips and TP upstructure.

"With regard to a penalty, I find myself in the strange position of Mr. Buhler, who was the Phillips' witness. I've always thought it should be based on acreage; the penalty should be on acreage, nonproductive acreage or productive acreage, whichever way you want to look at it. And I would say that if we are going to apply a penalty in this pool, based on a nonproductive acreage, that we have got more candidates in Pan American's well in the east half of Section 34. As the Examiner remarked for the record, there is a dry hole right on the 328-acre unit of one of the producing wells -- so, if we are going to talk about adjustments and penalties, I think we better take the shells off the pea and look at everything. And I submit to the Commission that our correlative rights will be violated even if you approve this unorthodox location. If we can't drill here and are forced to drill further downstructure, our correlative rights are going to be further violated, but you will violate no one's correlative rights, particularly Phillips and TP, if you approve this unorthodox location without even thinking."

Thank you.

MR. UTZ: Any other statements? The hearing is
adjourned until 1:30.

(Whereupon, the hearing was
recessed at 12:10 o'clock P.M.)

I N D E X

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E X H I B I T SEXHIBITOFFERED AND
ADMITTED

Applicant's 1 through 10

47

Pan American's Exhibit 1

67

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, CA FENLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

CA Fenley

 Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4207, heard by me on Aug. 27, 1969.
[Signature]
 _____ Examiner
 New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

September 10, 1969

Mr. Richard S. Morris
Montgomery, Federici, Andrews,
Hanna & Morris
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

Re: Case No. 4207
Order No. R-3835
Applicant:
C. W. Trainer & Del-Lea, Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

Other Mr. A. J. Losee, Artesia, New Mexico and

Mr. R. E. Thompson, Atwood & Malone, Roswell, N.M.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 4207
Order No. R-3835

APPLICATION OF C. W. TRAINER AND
DEL-LEA, INC., FOR AN UNORTHODOX
GAS WELL LOCATION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 27, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 10th day of September, 1969, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicants, C. W. Trainer and Del-Lea, Inc.,
seek authority to drill a gas well at an unorthodox gas well
location in the West Ranger Lake-Devonian Gas Pool 330 feet from
the North line and 660 feet from the West line of Section 35,
Township 12 South, Range 34 East, NMPM, Lea County, New Mexico,
to be dedicated to a standard unit comprising the N/2 of said
Section 35.

(3) That a standard location for the subject well would
require the well to be located not closer than 660 feet to the
nearest side boundary of the dedicated tract nor closer than
1980 feet to the nearest end boundary nor closer than 330 feet
to any quarter-quarter section or subdivision inner boundary.

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CASE No. 4207
Order No. R-3835

(4) That the evidence indicates that the subject pool is an active water-drive reservoir.

(5) That the productivity of approximately 242 1/2 acres in the eastern and southeastern part of the N/2 of said Section 35 is doubtful in the subject pool.

(6) That the evidence indicates that a well located up-structure at the proposed non-standard location in said Section 35 is more likely to encounter the West Ranger Lake-Devonian producing section above the gas-water contact than a well drilled at a standard location for said pool and should, therefore, result in greater ultimate recovery of gas from said pool.

(7) That the correlative rights of some offset operators will be impaired if the entire N/2 of said Section 35 is dedicated to the subject well.

(8) That to offset the advantage to be gained over offset operators by the drilling of a well at the proposed non-standard location, the acreage to be dedicated to the subject well should be reduced by approximately 75.78 percent.

(9) That approval of the proposed unorthodox location will not violate correlative rights and will afford the applicants the opportunity to produce their just and equitable share of the gas in the West Ranger Lake-Devonian Gas Pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste, provided no more than 77.5 acres is dedicated to the subject well.

IT IS THEREFORE ORDERED:

(1) That the applicants, C. W. Trainer and Del-Lea, Inc., are hereby authorized to drill a gas well at an unorthodox gas well location in the West Ranger Lake-Devonian Gas Pool 330 feet from the North line and 660 feet from the West line of Section 35, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico;

PROVIDED HOWEVER, that no more than 77.5 acres shall be dedicated to said well, being the W/2 W/2 NE/4 NE/4 NW/4, NW/4 NE/4 NW/4, N/2 SW/4 NE/4 NW/4, SW/4 SW/4 NE/4 NW/4, NW/4 NW/4, N/2 NE/4 SW/4 NW/4, SW/4 NE/4 SW/4 NW/4, and NW/4 SW/4 NW/4 of said Section 35.

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CASE No. 4207

Order No. R-3835

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



DAVID F. CARGO, Chairman



ALEX J. ARMISO, Member



A. L. PORTER, Jr., Member & Secretary



ear/

Memo

From
E. A. UTZ
GAS ENGINEER

To

2000 800 - 125 - 24 E.
TRACT

	Ac.
(1) W/2 W/2 NE/4 NE/4 NW/4 ✓	2.5
(2) NW/4 NE/4 NW/4 ✓	10.0
(3) N/2 SW/4 NE/4 NW/4 ✓	5.0
(4) SW/4 SW/4 NE/4 NW/4 ✓	2.5
(5) NW/4 NW/4 ✓	10.0
(6) N/2 NE/4 SW/4 NW/4 ✓	5.0
(7) SW/4 NE/4 SW/4 NW/4 ✓	2.5
(8) NW/4 SW/4 NW/4 ✓	10.0
	77.5

Case 4207

Heard 8-27-69

Rec. 2015 ~~69~~

Grant C. W. Trimmer and
Del-Son, Inc. a NSL in the
West Ranger Lake-Ser. gas
pool for a well to be drilled
330/N, 660/W line sec. 35,
T2S, R34E.

Said well shall have
78 acres. ded. to it as a
proportion unit. The
balance of the 1/2 of sec. 35
is considered to be non-
producing of gas from
the area.

Trust. Co.



western union

Telegram

LA091 NSB482

NS ODA117 PDB E 3XTRA=ODESSA TEX 25 348P CDT=
NEW MEXICO OIL CONSERVATION COMMISSION= 1969 AUG 25 PM 3 04
STATE LAND OFFICE BLDG SANTA FE NMEX=

ATTN MR A L PORTER JR:

RE EXAMINERS MEETING, WED AUG 27 1969, DOCUMENT
NBR 24469. CASE NBR 4207; APPLICATION OF C. W. TRAINER
AND DEL-LEA, INC. FOR AN UNORTHODOX GAS WELL LOCATION,
WEST RANGER LAKE (DEVONIAN) GAS POOL, LEA COUNTY, NEW
MEXICO. PHILLIPS PET CO HEREBY ENTERS OBJECTION TO THE
ASSIGNMENT OF A STANDARD 320 ACRE UNIT DEDICATION TO THE
PROPOSED UNORTHODOX GAS WELL LOCATION 330 FEET FWL AND

WU 1201 (R 5-69)



western union

Telegram

660 FT FWL, SECTION 35, T12S, R34E, IN THE SUBJECT POOL.
PHILLIPS PET CO BELIEVES THAT THE STRUCTURAL
ADVANTAGE OBTAINABLE OVER ADJECENT PRODUCER AT THIS
UNORTHODOX LOCATION SHOULD BE OFFSET BY A REDUCED
DEDICATED ACREAGE ASSIGNMENT COMPARABLE WITH PRIOR
DECISIONS ON SIMILAR UNORTHODOX LOCATION REQUEST.
IN THIS FIELD=

F F LOVERING MGR SOUTHWESTERN REGION PHILLIPS
PETROLEUM CO==

27 1969 24469 4207 320 330 35 T12S R34E .

WU 1201 (R 5-69)

8/27/69

Re: Case 4207

1. Humble is opposed to granting an exception to Rule 104-C11 to permit drilling of a well in an unorthodox gas location, 330 feet from the North line and 660 feet from the West line of Section 35, Township 12 South, Range 34 East, West Ranger Lake-Devonian Gas Pool, Lea County. We object to the unorthodox location in view of the possibility of resultant inequitable drainage and infringement of correlative rights.
2. If sufficient data is presented for the Commission to grant this unorthodox location, we propose that equitable acreage be assigned this well's proration unit, considering the proposed location's structural position as well as the dry hole which exists in the SW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 35. We also request that a directional survey be required in the well at total depth at the operator's expense and that a copy of the survey be furnished all offset operators as well as the Commission.

*Statement of Paul W. Eator, Jr.
in behalf of Humble Oil
& Refining Company.*

Acc. 4207 31.6

3-320 As much as prod. 9 mo. of 1968

Well	Prod.	Ac. Allow.
J & P #2	257,645 May	257,645
Phillips #1	777,518	888,728
✓ #2	1,221,941	888,728
	<u>2,257,104</u>	

3

752,368 / well for 9 mo.

Demand. 2,257,104

J & P May	257,645	
	<u>1,999,457</u>	888,728

2

5 well on for 1st 6 mo of 1969.

Well	AF	Prod.	Ac. Allow.
J & P #2	1.0	832	
Pan Am #2	4.181	356,168 May	356,168
Phillips #1	1.0	984,228	1,047,415
Phillips #2	1.0	1,440,603	1,047,415
Hamblet	1.0	562,236 May	562,236
	<u>3.81</u>	<u>3,013,235</u>	<u>3,013,234</u>
		3.81	

790,875 = 320 allow 6 mo.

Net May Allow. 2,094,831 = 1,047,415

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 27, 1969

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 4191: Application of Gulf Oil Corporation for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4408 feet to 4415 feet in its Roosevelt "AN" State Well No. 3 located in the NW/4 SE/4 of Section 32, Township 7 South, Range 36 East, adjacent to the Todd-Lower San Andres Pool, Roosevelt County, New Mexico.

CASE 4192: Application of Southwest Production Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Buffalo Valley "Com" Well No. 2 at an unorthodox location 1650 feet from the North line and 990 feet from the East line of Section 35, Township 14 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, in exception to the provisions of Rule 2 of the special rules for said pool.

CASE 4193: Application of Humble Oil & Refining Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Bowers "A" Federal Com 33 Well No. 33 located in Unit D of Section 29, Township 18 South, Range 35 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Hobbs (Grayburg-San Andres) Pool and the Hobbs-Blinbry Pool through parallel strings of tubing.

CASE 4194: Application of Phillips Petroleum Company for an amendment of Order No. R-3181 and dual completions, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3181, which order established special rules regulating the operation of the Phillips Petroleum Company Vacuum Abo Pressure Maintenance Project, Vacuum-Abo Reef Pool, Lea County, New Mexico. Applicant

CASE 4194 - Continued from Page 1 -

seeks authority to inject gas through two additional wells located in Unit L of Section 34, Township 17 South, Range 35 East and Unit B of Section 4, Township 18 South, Range 35 East and to expand said project area to include the SE/4 NE/4 of Section 33 and the NW/4, N/2 SE/4, and SW/4 SE/4 of Section 34 Township 17 South, Range 35 East. Applicant further seeks authority to dually complete all gas injection wells in the project in such a manner as to permit the production of oil from the lower section of the Abo Reef through tubing and the injection of gas into the upper section of the Abo Reef through the casing-tubing annulus.

CASE 4195: Application of Continental Oil Company for eight non-standard gas proration units and a non-standard gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the rededication of acreage to establish the eight following non-standard gas proration units in Township 20 South, Range 37 East, Fumont Gas Pool, Lea County, New Mexico:

A 120-acre non-standard unit comprising the SE/4 NE/4 and E/2 SE/4 of Section 14, to be dedicated to the "SEMU" Well No. 46, located in Unit D of said Section 14;

A 240-acre non-standard unit comprising the NE/4 and E/2 SE/4 of Section 26, to be dedicated to the "SEMU" Well No. 64, located in Unit G of said Section 26;

A 560-acre non-standard unit comprising the W/2 and W/2 SE/4 of Section 26 and the E/2 E/2 of Section 27, to be dedicated to the "SEMU" Well No. 65, located in Unit L of said Section 26;

A 640-acre non-standard unit comprising the W/2 and the W/2 E/2 of Section 14 and E/2 E/2 of Section 15, to be dedicated to the "SEMU" Well No. 66, located in Unit L of said Section 14;

CASE 4195 - Continued from Page 2 -

A 320-acre non-standard unit comprising the SE/4, S/2 NE/4, and E/2 SW/4 of Section 24, to be dedicated to the "SEMU" Well No. 67, located in Unit K of said Section 24;

A 640-acre non-standard unit comprising the E/2 and E/2 W/2 of Section 23 and W/2 W/2 of Section 24, to be dedicated to the "SEMU" Well No. 58, located in Unit J of said Section 23;

An 80-acre non-standard unit comprising the E/2 NW/4 of Section 24, to be dedicated to the "SEMU" Well No. 69, located in Unit F of said Section 24;

A 320-acre non-standard unit comprising the E/2 E/2 of Section 22 and the W/2 W/2 of Section 23, to be dedicated to the "SEMU" Well No. 90, to be completed at a non-standard location 550 feet from the South and East lines of said Section 22.

CASE 4196: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of three existing non-standard gas proration units into one 360-acre non-standard unit comprising the W/2 and the NW/4 NE/4 of Section 18, Township 23 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its Stevens "B" Wells Nos. 15 and 16, located in Units F and K, respectively, of said Section 18. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

CASE 4197: Application of Continental Oil Company for an amendment to Order No. R-3755, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3755 which authorized, among other things, the drilling of a water injection well in the Forest Donahue Waterflood Project area at a location 1980 feet from the North line and 1550 feet from the West line of Section 35, Township 16 South, Range 29 East, Eddy County, New Mexico.

CASE 4197 - Continued from Page 3 -

Applicant now seeks authority to locate said well at an unorthodox location 1980 feet from the North line and 1450 feet from the West line of said Section 35 in the Forest (San Andres) Pool.

CASE 4198: Application of Continental Oil Company for amendment of Order No. R-3487, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3487 which authorized the applicant to utilize its Eaves "A" Well No. 10, located in Unit P of Section 19, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, to dispose of salt water into the Seven Rivers formation in the interval from 3208 feet to 3255 feet. Applicant now seeks authority to inject produced salt water into the Yates and Seven Rivers formations in the perforated and open-hole interval from approximately 3107 feet to 3410 feet in said well and the reclassification of said salt water disposal well to a pressure maintenance injection well.

CASE 4199: Application of Burleson & Huff for compulsory pooling and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the SE/4 of Section 28, Township 25 South, Range 37 East, Lea County, New Mexico. Said 160-acre non-standard gas proration unit to be dedicated to the Burleson & Huff "Cook" Well No. 2, a recompleted well, located 660 feet from the South and East lines of said Section 28. Also to be considered will be the costs of drilling and/or recompleting said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4200: Application of Burleson & Huff for compulsory pooling and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the NE/4 of Section 29, Township 25 South, Range 37 East, Lea County, New Mexico. Said 160-acre non-standard gas proration unit to be dedicated to a well,

CASE 4200 - Continued from Page 4 -

to be recompleted, located 660 feet from the East line and 1930 feet from the North line of said Section 29. Also to be considered will be the costs of drilling and/or recompleting said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4201: Application of Mobil Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Langlie-Mattix Queen Unit Area comprising 1120 acres, more or less, of federal and fee lands in Sections 10, 11, 14, 15, 22, and 23, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 4202: Application of Mobil Oil Corporation for a waterflood project and unorthodox injection well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Langlie-Mattix Queen Unit Area by the injection of water into the Queen sand through 17 wells at orthodox and unorthodox locations in Sections 10, 11, 14, 15, 22, and 23, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby additional injection wells at orthodox and unorthodox locations may be approved for said project administratively.

CASE 4203: Application of Mobil Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Humphrey Queen Unit Area comprising 761 acres, more or less, of federal and fee lands in Sections 3 and 4, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 4204: Application of Mobil Oil Corporation for a waterflood project and unorthodox injection well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Humphrey Queen Unit Area by the injection of water into the Queen sand through 11 wells at orthodox

CASE 4204 - Continued from Page 5 -

and unorthodox locations in Sections 3 and 4, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby additional injection wells at orthodox and unorthodox locations may be approved for said project administratively.

CASE 4205: Application of Tesoro Petroleum Corporation for four unorthodox injection well locations and amendment of Order No. R-2807, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject water into the Hospah Upper Sand Oil Pool in its Hospah Unit Waterflood Project Area through four additional injection wells at unorthodox locations in Section 36, Township 18 North, Range 9 West, McKinley County, New Mexico, said wells to be located as follows:

Well No. 62 located 1900 feet from the South line and 1140 feet from the West line;

Well No. 63 located 1980 feet from the North line and 2310 feet from the West line;

A well to be drilled 1430 feet from the South line and 2625 feet from the East line;

A well to be drilled 30 feet from the South line and 2350 feet from the East line.

Applicant further seeks the amendment of Order No. R-2807, which order authorized the aforesaid waterflood project, to establish a procedure whereby additional injection wells at unorthodox locations, as may be necessary to complete an efficient injection pattern, may be approved administratively.

CASE 4206: Application of Shell Oil Company for an unorthodox oil well location and amendment to Order No. R-2538, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 1315 feet from the North line and 2625 feet from the West line of Section 34, Township 19

CASE 4206 - Continued from Page 6 -

South, Range 35 East, as an infill well in its East Pearl-Queen Unit Waterflood Project area, East Pearl-Queen Pool, Lea County, New Mexico. Applicant further seeks the amendment of Order No. R-2538, which order authorized the aforesaid waterflood project, to establish a procedure whereby additional producing wells at unorthodox infill locations in the aforesaid project area, as may be necessary to complete an efficient producing pattern, may be approved administratively.

CASE 4207: Application of C. W. Trainer and DEL-LEA, Inc., for an unorthodox gas well location, Lea County, New Mexico. Applicants, in the above-styled cause, seek an exception to Rule 104 C II to permit the drilling of a well at an unorthodox gas well location 330 feet from the North line and 660 feet from the West line of Section 35, Township 12 South, Range 34 East, West Ranger Lake-Devonian Gas Pool, Lea County, New Mexico. The N/2 of said Section 35 to be dedicated to the well.

CASE 4186: (Readvertised)

Application of Tenneco Oil Company for compulsory pooling and an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Basin-Dakota Gas Pool underlying the North half of Section 11, Township 29 North, Range 13 West, San Juan County, New Mexico. Said acreage to be dedicated to a well to be drilled at an unorthodox gas well location 2250 feet from the North line and 600 feet from the East line of said Section 11. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well. In the absence of a valid objection an order will be issued upon the record entered in the subject case August 6, 1969.

CASE 4208: Application of John A. Yates of Artesia for several waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute

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EXAMINER HEARING - August 27, 1969

DOCKET No. 24-69

CASE 4208 - Continued from Page 7 -

several waterflood projects by the injection of water into the Seven Rivers formation through his Mary Lou Well No. 1 located in Unit H of Section 29 and his Caroline Well No. 4 located in Unit E of Section 28, both in Township 19 South, Range 28 East, East Millman-Seven Rivers Pool, Eddy County, New Mexico.

CASE 4209: Application of Harvey E. Yates Company of Artesia for several pressure maintenance projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute several pressure maintenance projects by the injection of water into the Seven Rivers and Queen formations, McMillan (Seven Rivers-Queen) Pool, Eddy County, New Mexico, through the following-described wells in Township 20 South, Range 27 East:

Page & Yates Well No. 8 - Unit M - Section 5
Page & Yates Well No. 6 - Unit I - Section 6
Page & Yates Well No. 7 - Unit J - Section 6
Lillie Yates Well No. 2 - Unit B - Section 7

O.S. Frier (S) State		State		"AH"	
Sun 5-20-79 L 2933 2975		Sun 5-20-79 L 2934 2531		Contl. 2-18-74 K-3910 2523	
12 34		22		Phillips HBP E-1233	
O.S. Frier (S)		Amerado HBP L 7554		Cabot Carbon State P. 93	
Sun 6-17-79 L 3059 1522		Midwest 6-15-75 K 5064 2141		R. Lowe Shelly State L 4173 TO 5700 S.A. 4155 Glor 5625 D/A 7-13-48	
State		State		A.D. Jones, Es.	
Midwest St. Thagard TO 690		L.C. Harris 12-15-69 K 6 613		U.S. Smelt. 8-15-71 K 1676 2214	
Midwest Thagard TO 13100 D/A 9-27-59		Getty Oil E-2576 K Tr. 5 (G) Tr. 5 TD 12935 3/8F 2		A.D. Jones, Es.	
Amerado HBP E 7554		Amerado 5-17-70 K-448 10350		Humble J.C. Barnes, Jr. etal Tr. Humble-St.	
Lodue P Jones, SGM Amos D Jones, Est		State		NM-St. (15.3 Mil) State Penn Disc. E 253	
Del Lea, etal 1-18-76 K-5619 1000		Amerado 7-18-77 L-130		Texaco "CX" K Sunray (D-X 1/2) E 2221	
Amerado 10-17-77 L 359		Phillips HBP E 233		Pan Amer E 233	
N.L. Stevens, Jr. 4-15-79 L-2777 2757		Amerado 5-15-72 K-2447 2503		Tr. 8	
Coastal States R.L.B. TO 10613		Phillips L-131		"Tower Com." State	
Amerado 11-10-72		Pan Amer. 8-15-77 L-198		J.M. Hu 6-17-77 L-3060 64U	
10-16-72 10-25-72 10-18-72 1-12-73 9-6-73		9-6-72 9-15-72 9-20-72 11-3-72 11-15-72 11-21-72		J.R. Stephens Est. 9-13-72 19-2-72 A.D. Frier, etal	
Shell 4-19-70 K-369 8121		Pennzoil 7-16-78 L-1033 10279		Pennzoil 7-16-78 L-1033 10279	
State		State		Midwest 7-20-75 K-5136 4464	
Superior		Superior		Pennz	

Exhibit #1

WELL DATA - WEST RANGER LAKE DEVONIAN GAS POOL

PHILLIPS & TEXAS & PACIFIC - RANGER #1

Location: 660' f. S. & E. Sec. 23-12S-34E.
T.D. 12,997' (-8846) Elevation: 4151 DF.
DST in Devonian: 12,937-977 - open 1 hour, recovered 4500' W.B.,
450' MC salty sulphur water + 6750' salty sulphur
water. FP 3880-5100 psi. SIP - 5700 psi.
Top of Devonian (-8766)
Dry hole in Devonian.

PHILLIPS & TEXAS & PACIFIC - WEST RANGER #2

Location: 1980' f. S. & W. Sec. 23-12S-34E.
T.D. 12,940' (-8781) Elevation: 4159 DF.
Completed: 8-8-66
Casing: 4½" at 12,907' w/800 sx.
I.P.F.: 2,270 MCF gas/day + 281 bbls. condensate + 29 BW.
Oil gravity 56.5°. GOR 5427.
DST: 12,899-940', open 1 hour and 10 min. W.B. to surface in
27 min. GTS in 44 min. Flowed at rate of 5,500 MCF/D on
1/2" ch. Recovered 1380' condensate + 120' GCM.
FP 1544-1726 psi. One hour initial SIP 5033 psi., 2 hour
final SIP 5033 psi.
Top of Devonian (-8733).

PHILLIPS - W. RANGER LAKE UNIT #2

Location: 1980' f. S. & W. Sec. 26-12S-34E.
Completed: 2-20-68
T.D. 12,863 (-8691') Elevation: 4172 DF
Casing: 5½" at 12,816'/750 sx.
IP-CAOF: 37,988 MCF gas/day + unreported amount of condensate.
Top of Devonian (-8658)

PHILLIPS - W. RANGER LAKE UNIT #1

Location: 660' f. N. & 1980' f. W. Sec. 26-12S-34E.
Completed: 8-1-67 Elevation: 4156' DF
T.D. 12,894' (-8738')
Casing: 5½" at 12,828'/710 sx.
I.P.-CAOF - 6,666 MCF gas/day + 360 BC.
Top of Devonian: (-8674).

HUMBLE - NEW MEXICO STATE "CH" #1

Location: 760' f. S. & 1980' f. E. Sec. 27-12S-34E.
Completed: 2-26-69
T.D.: 12,910' (-8744') Elevation: 4166 gr.
Casing: 4½" at 12,909'/975 sx.
Perforated 12,882-906.
I.P.-CAOF - 15,300 MCF gas/day + 178 bbls. condensate per MMCF.
Top of Devonian (-8646).

BEFORE EXAMINER
OIL CONSERVATION COM.
EXHIBIT NO. 5
CASE NO. 4207

WELL DATA - WEST RANGER LAKE DEVONIAN GAS POOL (Continued)

PAN AMERICAN - STATE "AZ" #4

Location: 990' f. N. & E. Sec. 34-12S-34E.
Completed: 8-30-68
T.D.: 12,889' (-8720') Elevation: 4169' RB.
Casing: 5½" at 12,836/900 sx.
Perforated 12,790'-824'. Also has open hole 12,836-889.
I.P.-CAOF - 19,500 MCF gas/day.
Top of Devonian: (-8618)

AMERADA - STATE "WR" "A" COM. #1 (Orig. well #2).

Location: 2080' f. N. & 660' f. W. Sec. 35-12S-34E.
Completed as a dry hole 3-31-69.
T.D.: 13,102' (-8945') Elevation: 4157' KB.
DST: 13,000-102', open 4 hours. Recovered 2,000 W.B. + 270' mud
+ 2343' formation water. FP 1649-2161 psi. 30 min ISIP -
3428, 2-1/4 hour FSIP = 3611 psi.
Top of Devonian: (-8836)

PHILLIPS - TOWER COM. "A" #1

Location: 1980' f. S. & W. Sec. 34-12S-34E.
Completed: 3-12-69
T.D.: 12,885 (-8713) Elevation: 4160' gr.
Casing: 5½" at 12,885-825 sx.
Perforated: 12,862-874.
I.P.-CAOF - 3,354 MCF gas/day + 43 bbls. condensate/MMCF.
Top of Devonian: (-8589).

GETTY OIL CO. - STATE "BF" #3

Location: 1980' f. N. & 990' f. E. Sec. 27-12S-34E.
Completed: 7-4-69 as a dry hole.
T.D. 12,935' (-8758) Elevation: 4177 DF
Top of Devonian (-8704')
DST: 12,885-935, open 2 hours 15 min. GTS/1 hr. flowed 2,000 MCF
gas/day, decreased to 500 MCF/D. Recovered 6 bbls. condensate
+ 17 BW. Reversed out 6,000' VHGC water.
60 min. ISIP - 4252 psi. 90 min. FSIP - 4252 psi.

**OIL, GAS & WATER PRODUCTION
WEST RANGER LAKE DEVONIAN GAS POOL WELLS**

DATE	TEXAS-PACIFIC OIL W. RANGER UNIT #2		PAN AMERICAN PETROLEUM STATE "AZ" #4			PHILLIPS PETROLEUM CORP. WEST RANGER LAKE UNIT #1			PHILLIPS PETROLEUM CORP. WEST RANGER LAKE UNIT #2			HUMBLE OIL N. MEX. CH STATE	
	OIL	GAS	OIL	GAS	WATER	OIL	GAS	WATER	OIL	GAS	WATER	OIL	GAS
1966													
Oct.	393												
Nov.	4,177	29,391											
Dec.	4,661	33,511											
	9,231	62,902											
1967													
Jan.	5,282	40,093											
Feb.	5,072	37,913											
Mar.	6,239	43,584											
Apr.	6,040	44,063											
May	6,373	46,264											
June	5,618	39,038											
July	6,204	40,719											
Aug.	5,662	38,892											
Sep.	5,003	34,091											
Oct.	5,628	36,255											
Nov.	6,245	39,845											
Dec.	5,611	29,020											
	68,977	469,777											
Cum.	78,208	532,679											
1968													
Jan.	4,229	42,111											
Feb.	5,062	39,625											
Mar.	5,324	36,032											
Apr.	5,058	32,310				1,692	10,039		2,619	15,525			
May	5,277	32,350				9,800	78,351		3,787	107,879			
June	4,510	33,383				9,818	51,109		13,812	119,180			
July	5,077	6,483				10,096	64,969		14,202	116,419			
Aug.	3,519	24,785				13,473	100,663		18,952	146,539			
Sep.	5,322	49,328	143			12,173	105,903		17,124	122,805			
Oct.	5,425	45,126				16,870	122,099		23,732	179,851			
Nov.	3,414	32,780				15,803	97,567		22,230	167,240			
Dec.	366	1,100				21,588	146,818		30,367	246,503			
	52,583	375,413	143			111,313	777,518		146,825	1,221,941			
1969													
Jan.			1,760	32,989		22,209	160,185		31,240	240,414	182		
Feb.		832	3,622	68,193		19,404	171,522		28,454	251,527		500	2,950
Mar.			5,635	33,794		18,661	177,399		30,219	287,276			
Apr.			4,467	33,441		16,325	244,263		11,431	171,098		9,552	108,868
May			5,523	54,945	65	12,034	125,100	1,273	8,864	92,139	3,212	14,967	143,530
		832	21,007	223,362	65	88,633	878,469	1,273	110,208	1,042,454	3,394	25,019	255,348
Cum.	130,791	908,924	21,150	223,362		199,946	1,655,987		257,033	2,264,395		25,019	255,348

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Offpl. EXHIBIT NO. 6
CASE NO. 4207

Exhibit #6

RECENT PRODUCTION DATA
WEST RANGER LAKE DEVONIAN GAS POOL

<u>JUNE, 1969</u>	<u>OIL</u>	<u>WATER</u>	<u>GAS</u>
Humble - N. M. State CH #1	15,219	0	149,836
Phillips - Ranger Lake Unit #1	6,912	939	79,874
Phillips - Ranger Lake Unit #2	5,355	2,491	61,898
Phillips - Tower #1	1,044	0	11,801
Pan Am - St. "AZ" #4	5,276	58	58,015

<u>JULY, 1969</u>			
Humble - N. M. State CH #1	18,328	0	161,052
Phillips - Ranger Lake Unit #1	2,053	539	25,885
Phillips - Ranger Lake Unit #2	2,869	1,565	36,160
Phillips - Tower #1	1,078	0	12,377
Pan Am - St. "AZ" #4	6,166	124	74,791

BOTTOM HOLE PRESSURE DATA - W. RANGER LAKE DEVONIAN GAS POOL

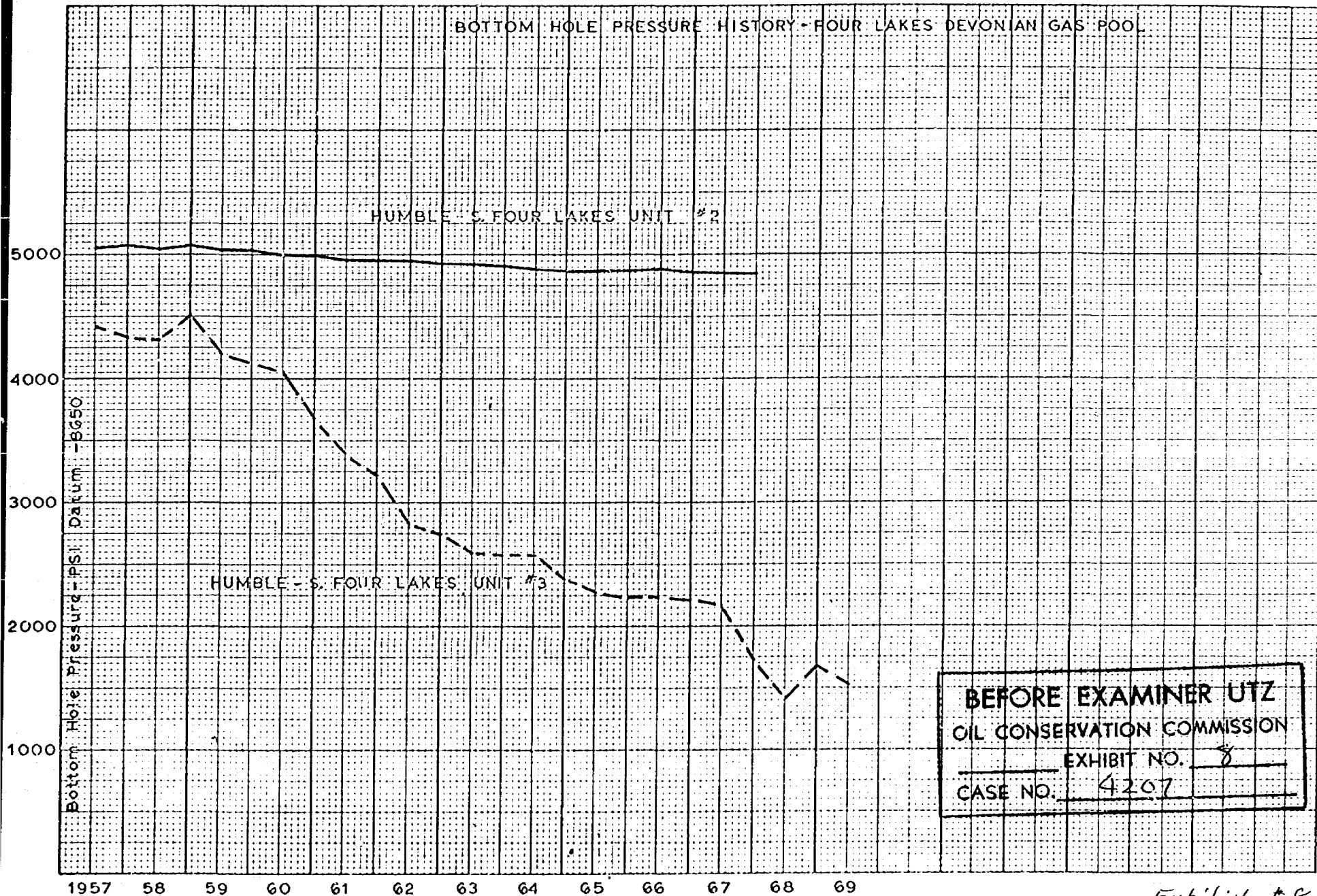
<u>WELL</u>	<u>DATE</u>	<u>BHP</u>	<u>DATUM</u>
T. P. - W. RANGER UNIT #2	8-17-66	4937 psi.	-8764
Humble - NEW MEXICO CH STATE #1	2-26-69	4335 psi.	-8726
PHILLIPS PET. CO. - W. RANGER #1	7-31-67	5017 psi.	
	7-31-68	4718 psi.	
PHILLIPS - W. RANGER #2	9- 6-68	4658 psi.	
	Apr. '69	4177 psi.	
PHILLIPS - TOWER #1	2- 4-69	4335 psi.	

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 4207

NO. 340R-20 DIETZGEN GRAPH PAPER
20 X 20 PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.

BOTTOM HOLE PRESSURE HISTORY - FOUR LAKES DEVONIAN GAS POOL



ESTIMATED PRODUCTIVE ACRES - NORMAL CONTOUR MAP
(USING ORIGINAL WATER CONTACT)

WELL	PROD. ACRES	RATIO PROD. AC. TRAINER/THIS WELL	TRAINER EQUIV. PROD. AC/320 AC.
T. P. - W. RANGER UNIT #2	216	.208	67
PHILLIPS - RANGER LAKE UNIT #1	212	.212	68
PHILLIPS - RANGER LAKE UNIT #2	156	.288	92
GETTY - STATE BF #3	150 68		
HUMBLE - N. M. STATE CH #1	320 173	.260	83
PAN AM - STATE AZ #4	260 195	.231	74
PHILLIPS - TOWER #1-A	186	.242	78
C. W. TRAINER - N/2 Sec. 35	45		

Average equivalent acres
of Trainer Prod. Acres - 77 ac.

ESTIMATED PRODUCTIVE ACRES - DIP METER CONTOUR MAP
(USING ORIGINAL WATER CONTACT)

WELL	PROD. ACRES	RATIO PROD. AC. TRAINER/THIS WELL	TRAINER EQUIV. PROD. AC/320 AC.
T. P. - W. RANGER UNIT #2	216	.361	115
PHILLIPS - RANGER LAKE UNIT #1	202	.386	124
PHILLIPS - RANGER LAKE UNIT #2	163	.479	153
GETTY - STATE BF #3	68		
HUMBLE - N. M. STATE CH #1	170	.460	147
PAN AM - STATE AZ #4	196	.398	128
PHILLIPS - TOWER #1-A	160	.488	156
C. W. TRAINER - N/2 Sec. 35	78		

Average equivalent acres
of Trainer Prod. Acres - 137 ac.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 10
CASE NO. 4297

RALPH L. GRAY
PETROLEUM ENGINEERING

Exhibit #10.

19 AUG 7 PM 2 19

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF C. W. TRAINER)
AND DEL-LEA, INC. FOR AN)
UNORTHODOX LOCATION, RANGER)
LAKE - DEVONIAN GAS POOL,)
LEA COUNTY, NEW MEXICO.)

Case No. 4207

APPLICATION

Come now C. W. TRAINER and DEL-LEA, INC. and apply to the New Mexico Oil Conservation Commission for approval of an unorthodox location in the Ranger Lake - Devonian Gas Pool, Lea County, New Mexico, and in support of their application, state:

1. C. W. Trainer is the operator and is the co-owner with Del-Lea, Inc. of the N/2 of Section 35, Township 12 South, Range 34 East, N.M.P.M., Lea County, New Mexico.

2. Applicants propose to drill a well to the Ranger Lake - Devonian Gas Pool at an unorthodox location three hundred thirty (330) feet from the north line and six hundred sixty (660) feet from the west line of said Section 35.

3. Approval of this application is necessary to enable applicants to produce the recoverable reserves underlying the N/2 of said Section 35 and thereby protect their correlative rights and prevent waste. Protection of correlative rights of offset operators will be accomplished by limiting the acreage to be established as a spacing unit to that portion of the N/2 of said Section 35 underlain by recoverable reserves.

WHEREFORE, applicants request that this application be set for hearing before the Commission or one of its Examiners

DOCKET MAILED

Date 8-15-69

and that the Commission enter its order approving this application.

A. J. LOSEE
Post Office Drawer 239
Artesia, New Mexico

and

MONTGOMERY, FEDERICI, ANDREWS,
HANNAHS & MORRIS

By: *Richard S. Morris*
Post Office Box 2307
Santa Fe, New Mexico 87501

Attorneys for Applicants
C. W. Trainer and
Del-Lea, Inc.

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 4207

Order No. R- 3835

APPLICATION OF C. W. TRAINER AND
DEL-LEA, INC., FOR AN UNORTHODOX
GAS WELL LOCATION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 27, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 27th day of August, 1969, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicants, C. W. Trainer and ~~DEL-LEA, Inc.~~ ^{Del-Lea, Inc.,}
seek authority to drill a gas well at an unorthodox gas well
location in the West Ranger Lake-Devonian Gas Pool 330 feet from
the North line and 660 feet from the West line of Section 35,
Township 12 South, Range 34 East, NMPM, Lea County, New Mexico,
to be dedicated to a standard unit comprising the N/2 of said
Section 35.

(3) That a standard location for the subject well would
require the well to be located not closer than 660 feet to the
nearest side boundary of the dedicated tract nor closer than
1980 feet to the nearest end boundary nor closer than 330 feet
to any quarter-quarter section or subdivision inner boundary.

(4) That the evidence indicates that the subject pool is an active water-drive reservoir.

(5) That the productivity of approximately 242 1/2 acres in the Eastern and Southern part of the N/2 of said Section 35 is doubtful in the subject pool.

(6) That the evidence indicates that a well located up structure at the proposed non-standard location in said Section 35 is more likely to encounter the West Ranger Lake-Devonian producing section above the gas-water contact than a well drilled at a standard location for said pool and should, therefore, result in greater ultimate recovery of gas from said pool.

(7) That the correlative rights of some offset operators will be impaired if the entire N/2 of said Section 35 is dedicated to the subject well.

(8) That to offset the advantage to be gained over offset operators by the drilling of a well at the proposed non-standard location, the acreage to be dedicated to the subject well should be reduced by approximately 75.78% percent.

(9) That approval of the proposed unorthodox location will not violate correlative rights and will afford the applicants the opportunity to produce their just and equitable share of the gas in the West Ranger Lake-Devonian Gas Pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste, provided no more than 77.5 acres is dedicated to the subject well.

IT IS THEREFORE ORDERED:

(1) That the applicants, C. W. Trainer and Del-Lea, Inc.,
~~DEL-LEA, Inc.,~~
are hereby authorized to drill a gas well at an unorthodox gas

well location in the West Ranger Lake-Devonian Gas Pool 330 feet from the North line and 660 feet from the West line of Section 35, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico;

PROVIDED HOWEVER, that no more than 77.5 acres shall be dedicated to said well, being the W/2 W/2 NE/4 NE/4 NW/4, NW/4 NE/4 NW/4, NE/2 SW/4 NE/4 NW/4, SW/4 SW/4 NE/4 NW/4, NW/4 NW/4, NE/2 NE/4 SW/4 NW/4, SW/4 NE/4 SW/4 NW/4, and NW/4 SW/4 NW/4 of said Section 35.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

CASE 4208: Application of JOHN A.
YATES OF ARTESIA FOR SEVERAL
WATERFLOOD PROJECTS, EDDY COUNTY.