BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 10, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Pan American Petroleum Corporation for an unorthodox location and a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its SMU Well No. 15 to produce oil from the Fowler-Blinebry and Fowler-Ellenburger Pools through parallel strings of tubing, said well to be at an unorthodox location for the Fowler-Ellenburger Pool at a point 660 feet from the North and East lines of Section 22, Township 24 South, Range 37 East, Lea County, New Mexico.

CASE 2854

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 2854.

MR. DURRETT: Application of Pan American Petroleum Corporation for an unorthodox location and a dual completion, Lea County, New Mexico.

MR. BUELL: Guy Buell, Pan American Petroleum Corporation.

MR. UTZ: Any other appearances in this case?

MR. BUELL: Mr. Examiner, I'm advised that Gulf intended to participate. I think they were going to, to some extent, oppose us. I am not recommending that we go look for them.

MR. UTZ: I think Gulf knows their way here. The only

correspondence that we have is from Atlantic in the form of a telegram.

MR. BUELL: We have one witness, Mr. Examiner.

MR. UTZ: Would you swear him in?

(Witness sworn.)

(Whereupon, Pan American's Exhibits Nos. 1 through 5 marked for identification.)

JAMES T. ROGERS

called as a witness, having been first duly sworn on oath, testified as follows:

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Rogers, would you state your complete name, by whom you are employed, and in what capacity and what location, please?

A James Turner Rogers, employed by Pan American as a Petroleum Engineer in the Lubbock District Office.

Q Mr. Rogers, you have testified at a previous Commission hearing, have you not, and your qualifications as a Petroleum Engineer are a matter of public record?

A Yes, sir.

MR. BUELL: Any questions, Mr. Examiner?

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

Q (By Mr. Buell) Mr. Rogers, at the outset, I wish you would direct your attention to what has been marked as Pan American's Exhibit No. 1, and briefly state what that exhibit

reflects.

A Exhibit No. 1 is a structure map contoured on top of the producing Ellenburger in the Fowler area. The contour interval on this map is 100 feet. The datum point for each well are shown by the well number. This indicates that the structure of the Ellenburger in this area is an asymetrical anticline with a northwest-southeast trend.

Q How have you designated the South Mattix Unit?

A It is shown here by the heavy blue dashed line.

Q How have you designated the proposed location for SMU Well No.15, which is the subject matter of this hearing?

A This well is shown in the extreme northeast portion of Section 22 by a red dot.

Q How have you designated the proposed 80-acre proration unit which Pan American intends to attribute to Well No. 15,in the event the Commission approves our application we're making here today?

A The proration unit is shown by the red line.

Q Why is the location unorthodox?

A The field rules call for wells to be located in the Northwest and Southeast Quarter-Quarter Sections of a Quarter Section. This well is located in the Northeast Quarter-Quarter Section, or in other words, it's in the east 40 of the 80-acre shown, rather than the west 40.

Q It is orthodox from the standpoint that it is in the

center of the east 40-acre tract of this 80-acre unit?

A Yes, sir, it is.

Q Going back to this structural picture as reflected by Exhibit 1 for a moment, Mr. Rogers, is that essentially the same structural interpretation that was presented for Pan American by Tom Ingram at a field rule hearing back in 1954?

A Yes, it is. This is essentially the same map. The only change that we've made on it is with respect to the 6300-foot contour line, which is the second highest contour; and we changed this one due to recent completion of Gulf's Lily No. 3. This well came in slightly lower than would have been anticipated from our previous map, and we brought the contour inside the well.

Q Other than that slight change, the picture is identical to that presented back in 1954?

A Yes, it is.

Q Let me ask you this while we are looking at this exhibit, Mr. Rogers: In your opinion can the 80-acre proration unit as designated on our Exhibit No. 1 be considered as reasonably productive from the Ellenburger formation?

A Yes, sir, it can.

Q What is the significance of the green line on Exhibit 1 that connects a series of wells?

A This is a trace of a cross section.

Q Are you ready to discuss that now?

A Yes, sir.

Q It has been marked as our Exhibit No. 2, and briefly comment for the record what Exhibit No. 2 reflects.

A This is a cross section running from the Northwest of the Southeast through the Fowler-Ellenburger Pool and starts in Pan American Mattix No. 7 and through Well 4, 3, and 5 and Gulf Plains Knight No. 1-E.

MR. UTZ: Could we stick one of those up on the wall so everyone can see it?

Q (By Mr. Buell) Mr. Rogers, from the standpoint of high and low wells, are the wells on this section representative of high and low wells in this pool?

A Yes, they are.

Q Why don't you start over at the left-hand side with No. 7 and briefly run across this section and point out where these wells are located structurally, just generally, by high or low?

A No. 7 is the lowest structural well on the cross section. No. 4 is somewhat higher, No. 3 would be intermediate, and the South Mattix Unit No. 5 and Gulf Plains No. 1 are both higher.

Q What other data are reflected on this cross section? Have you shown, for instance, the top of the Ellenburger?

A Yes, sir, we have top of Ellenburger and the top of the granite where it could be picked. Also we've shown the completion intervals in the wells.

Q Is the estimated original oil-water contact also reflected on this cross section?

A Yes, it's shown as minus 7250 feet.

Q Mr. Rogers, I noticed on Exhibit No. 1 and in the proposed 80-acre proration unit which we intend to attribute to Well No. 15 that there is a symbol for an abandoned Ellenburger well in that 80-acre proration unit. Is that observation correct?

A Yes, that's the South Mattix Unit No. 3.

Q It might be well to at this time get into the record a brief history of that No. 3 Well. Do you recall when it was completed?

A This well was completed in December of 1950.

Q What was its initial potential?

A The initial potential was flowing 350 barrels of oil, no water, with a gas-oil ratio of 805.

Q What happened to that well then?

A This well was produced for approximately three months, until March of 1951, at which time it was shut in for interference bottom hole pressure test, in conjunction with our initial request for 80-acre spacing.

Q At that time the operators in this pool felt that one well would effectively drain 80 acres, and No. 3 was shut in to obtain engineering data to conclusively show one way or the other, with respect to drainage, is that correct?

A Yes, that's right.

Q What was the well producing at the time it was shut in for the series of interference tests, Mr. Rogers?

A This well produced flowing top allowable for the full interval from initial completion until the time it was shut in, and was water-free.

Q Water-free at the time it was shut in. How long was this well shut in to observe the pressure performance on it?

A Well, it was shut in for three years and eight months, until November of 1954, at which time we returned it to production and it tested 100 percent water.

Q When the original completion interval made a hundred percent water, what attempt was made to return it to production? What did Pan American then do?

A We made several attempts at remedial work, as shown on this cross section. We squeezed it a couple of times, acidized it, the well still tested 100 percent water. We then deepened the well approximately 400 feet more, down to a total depth of 10,507 feet. In the deepening we ran three drillstem tests and they are shown in detail on the cross section, and they showed essentially water production.

Q Do you recall offhand how much money was spent by Pan American in an attempt and effort to return the No. 3 to production?

A We spent a total of approximately $50,000.00 on this well.

Q Mr. Rogers, I'm sure that a lot of Pan American technical people advanced many theories as to what happened. I would like to hear your opinion as to what you think happened to this No. 3 well during the three years and eight months that it was shut in while performing these tests on it.

A Well, we've had a number of theories on it. The one I considered most reasonable relates to the stratification and high permeability shown in the Ellenburger at this location. This well was cored in the initial open hole interval on original completion. It had very high permeability, ranging up in excess of 2,000 millidarcies. The average permeability for the Fowler-Ellenburger Pool is only about 40 or 50 millidarcies so this one had much higher permeability. The theory, as I say, that I consider most reasonable, is that during the period of time that this well was shut in, we had a limited amount of water influx, water encroachment, and this water influx progressed to the well bore through the highly permeable stringer, at which time it logged up the well bore with water and the water then entered the formation, flooding it out in the immediate vicinity of the well bore.

By the same token, this water would, by force of gravity, during that three years and eight months, tend to move downward out of the bottom of the hole.

Q Mr. Rogers, now you testified that in your opinion this proposed 80-acre unit as reflected on Exhibit 1 could

reasonably be considered to be productive from the Ellenburger. In view of the performance of No. 3 that you have recited, don't you feel that No. 3 condemns some of the acreage in the proration unit?

A No, I don't. If we look at the cross section, we can see that we have a number of wells completed in this reservoir, and these are just a few of them, at much lower subsea depths than this well. We start over with South Mattix No. 7, the left-hand well on the cross section. The completion interval from this well is approximately 200 feet subsea below the top of the Ellenburger in South Mattix No. 3; and the No. 7 is a flowing, top allowable, water-free producer.

We progress on to No. 4. The completion interval for No. 4 is roughly equivalent to the top of the Ellenburger in No. 3. This well is also flowing, top allowable, water-free.

Moving on across to South Mattix Unit No. 5, this well is completed in two perforated intervals; as shown on the cross section, the lower interval is roughly 400 feet below the subsea top in South Mattix No. 3, and this well is a water-free, top allowable, pumping well.

Going on to the last well over here, the Gulf Plains Knight No. 1, this well has roughly the entire Ellenburger perforated in it. The lower perforations are about 450 feet below the top of the Ellenburger in our No. 3.

MR. UTZ: Which well was the last one again?

A The Gulf Plains Knight No. 1.

MR. UTZ: Yes, sir.

A The lower perforations are approximately 450 feet below the top of the Ellenburger in No. 3, and this well is a flowing, top allowable, water-free producer. Based on this, the acreage in the vicinity of South Mattix No. 3 would have to be productive.

Q (By Mr. Buell) In other words, you feel that the performance on No. 3 is just a freak and only represents the conditions in the reservoir in the immediate vicinity of the well bore of No. 3?

A Yes, sir, I do.

Q I wish you would go down to what has been marked as our Exhibit No. 3. Briefly state for the record what that exhibit reflects.

A Exhibit No. 3 is a performance curve of the Fowler-Ellenburger Pool. We have a gas-oil ratio, the daily producing rates, oil rates, cumulative oil production, and number of wells, all shown as functions of time.

Q Are the data reflected on that exhibit more or less self-explanatory?

A Yes, they are.

Q Would you go now to what has been marked as our Exhibit No. 4 and briefly state for the record what that exhibit reflects?

A Exhibit No. 4 is a plot of bottom hole pressure versus

time for the Fowler-Ellenburger Pool. We have three, you might say, types of bottom hole pressure data shown on this exhibit. The circles represent the original pressures in the wells upon their initial completion, for the first eight wells drilled in the South Mattix Unit, so we have Wells No. 1 through 8 here, their initial bottom hole pressure at the time they were completed. The triangles are average field reservoir pressure from bottom hole pressure surveys. The small solid circles are bottom hole interference tests, pressures run on the South Mattix Unit No. 3 during the period from 1951 to 1954 when it was shut in.

In studying this, if you notice the interference test pressures, the pressure, bottom hole pressure in this South Mattix Unit No. 3 declined at a rate almost identical to that of the average field pressure or average reservoir pressure during the time these tests were being run, and this showed conclusive evidence that this well was in communication with the reservoir and that excellent communication did exist in the Fowler-Ellenburger and would allow adequate drainage on 80-acre spacing.

Q SMU No. 3 did then make a contribution to science?

A Yes, sir, it did.

Q Even though it cost Pan American a well?

A Yes, sir.

Q Mr. Rogers, based on these data reflected on Exhibit 4, as well as other data you examined with respect to this reservoir, in your opinion we have an active water drive here that we normally

associate with an Ellenburger reservoir?

A No, sir, we do not.

Q What, in your opinion, is the primary producing mechanism?

A The primary producing mechanism appears to be that of solution gas drive.

Q Directing your attention back to Exhibit 1 again, and with particular reference to the proposed unorthodox location for No. 15, in view of the producing mechanism that this reservoir is operating under, will Pan American gain any advantage by this unorthodox location?

A No, sir. Under solution gas drive, and particularly in view of the excellent communication we have in this reservoir, our structural position of the well is not pertinent to what would otherwise occur.

Q Certainly since you feel that the 80-acre proposed unit for No. 15 can reasonably be considered as productive, it is your recommendation to the Commission that, in the event they approve our unorthodox location, that this well be granted a full 80-acre allowable?

A Yes, it is.

Q Let's go now to the portion of this hearing that relates to the dual completion of Well No. 15.

MR. BUELL: In that connection, Mr. Examiner, we have collected all of our exhibits relating to the dual completion, and they are in brochure form and identified as Exhibit No. 5.

Q What does Pan American propose to dual No. 15 in, Mr. Rogers?

A We propose to dual it in the Fowler-Ellenburger and Fowler-Blinebry Oil Pools.

Q How many wells are currently completed in the Blinebry Oil Pool?

A There are two wells currently completed, the Gulf Plains Knight No. 2 and Pan American South Mattix Unit No. 14. We are currently attempting completion in our South Mattix Unit No. 3.

Q Are those Blinebry wells that you just mentioned colored in green on the plat that is attached to Exhibit 5?

A Yes, sir, they are.

Q I wish you would turn to the diagrammatic sketch that is attached to our Exhibit 5 and briefly discuss what that sketch shows.

A This is a proposed sketch for our intended method of completing this well. 13-3/8 inch surface casing set at approximately 300 feet with the cement to be circulated; intermediate 9-5/8 inch casing set at 4,000 feet; the 7-inch oil string set at approximately 10,000 feet. We will perforate the Blinebry in an interval ranging from 5350 to 5650 feet, and the Ellenburger over an interval from 9500 to 9700 feet. The two zones will be separated by an Otis Type WA packer to be set at 6200 feet.

Q Mr. Rogers, in your opinion will the mechanical installation that you have just discussed effect complete separation

between the Ellenburger and the Blinebry in this well?

A Yes, it will.

Q In listening to that, it seems to me that that is what we normally refer to as a conventional dual. Why is a hearing necessary for the approval of this dual, since it is conventional?

A To our knowledge, there has been no approval on a dual in these two zones in this area.

Q Mr. Rogers, what, in your opinion, would it cost to drill at this time Well No. 15 as a single Ellenburger well?

A Well No. 15 for single Ellenburger completion would cost approximately $170,000.00.

Q What, in your opinion, would it cost to drill a single Blinebry well in that location?

A Approximately 70,000.

Q For a total for two single wells of $240,000.00?

A Yes, sir.

Q How much do you think it will cost Pan American to dually complete No. 15?

A Our estimated cost for the dual is $192,000, which results in a savings of $48,000.00 with a dual, over two single completions.

Q Mr. Rogers, in your opinion will the approval of this dual request prevent economic waste and protect the correlative rights of all owners of interest both in the Ellenburger and the Blinebry reservoir?

A Yes, sir, it will.

Q Do you have anything else that you would like to add to the record at this time?

A No, sir.

MR. BUELL: May it please the Examiner, that's all we have by way of direct at this time, and I would like to formally offer Pan American's Exhibits 1 through 5.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record of this case.

(Whereupon, Pan American's Exhibits Nos. 1 through 5, inclusive, received in evidence.)

MR. UTZ: Are there questions of the witness?

MR. KASTLER: I'm Bill Kastler, an attorney for Gulf Oil Corporation, from Roswell, New Mexico, and I would like to cross examine.

MR. UTZ: You also want to enter an appearance in this case at this time?

MR. KASTLER: Yes, I do.

CROSS EXAMINATION

BY MR. KASTLER:

Q Mr. Rogers, do you have the monthly figures or amounts of production of oil and water on your Well No. 3, the Pan American South Mattix Unit Well No. 3?

A No, sir, I do not, not by months. I have a cumulative figure prior to the time it was shut in, it had made no water up

to that time.

Q Did I understand from your direct examination that you stated from the time it was shut in it made no water?

A That's right.

Q And after the time it was shut in, it produced no oil?

A No, sir. It produced minor quantities of oil and it was tested for approximately a year after it was put back on production; essentially was 100 percent water. On periodic tests, it ranged from five to 25 barrels of oil a day. It was not sustained. We ran in with a tracer survey on it, and somewhere in the vicinity of August of 1955, after that we didn't make any oil. It was 100 percent water at the time we finally abandoned the well in the Ellenburger.

Q The well got progressively poorer, did it not?

A No, sir, it didn't. It was just spastic. When it first came in, it tested 100 percent water for several days -- I better say six weeks, and then we put a pump on and pumped it and that is when we recovered measurable quantities of oil on some tests and 100 percent water on another test. We had no trend in showing that it got progressively worse until we ran the tracer survey, and all of a sudden we had no oil. We don't know what caused that.

MR.KASTLER: From the monthly report of the Oil Conservation Commission of that well's production, I have a number of figures that I would like to read into the record. I don't

believe it's necessary to ask that a witness do this, because I believe these are matters that the Commission should take administrative notice of.

MR. BUELL: We have no objection to his reading them into the record. He can offer them as an exhibit if you would like to.

MR. KASTLER: I'm sorry but I don't have this prepared as formally as it should be for an exhibit.

MR. UTZ: What are these production figures?

MR. KASTLER: Production figures by months, showing production of oil and production of water.

MR. UTZ: All right, you may proceed.

MR. KASTLER: December, 1950 -- this is the first column, Month, and then after that I'll read the second column, Oil, and then the third column, Water. For December, 1950, 4,030 barrels of oil, zero water; January, '51, 5,778 of oil and zero water; February, '51, 5,280 barrels of oil, zero water; March, '51, 788 barrels of oil, zero water. Then the notation, "No production from April, '51 to January, '55,"during which time Mr. Rogers has testified the well was shut in for performance test.

MR. UTZ: Until January, '55?

MR. KASTLER: Yes. 1350 barrels of oil, in January, '55, 2,816 barrels of water; February, '55, 413 barrels of oil, 4,729 barrels of water; March, '55, 515 barrels of oil, 2,059

barrels of water; April, '55, 313 barrels of oil, 1,370 barrels of water; May, '55, 49 barrels of oil, 1,214 barrels of water; June, zero oil, 714 water; July, zero oil, 1,915 water; August, zero oil, 1418 barrels of water; September, zero oil, 571 barrels of water; October, zero oil, 400 barrels of water.

Then it's my understanding in October of '55 the well was plugged back and recompleted in the Silurian formation.

Q (By Mr. Kastler) Is that correct, Mr. Rogers?

A Yes, sir. I'm not sure it went to Silurian. I think it went to the Continental, but eventually it was completed in the Silurian.

Q At any rate, at that time you abandoned further efforts to recomplete or restore this well to oil production in the Ellenburger?

A That's right.

MR. KASTLER: The cumulative production is simply totals, 14,266 barrels of water, 18,541 barrels of oil.

Q (By Mr. Kastler) I see Mr. Buell has copied these figures, and if you'll refer to them briefly, can you now answer my question as to whether or not the oil production, particularly after the shut-in period, showed a rather steady, uniform decline?

A Just give me one second here. Okay. Based on these figures from January to February, '55, we had a rapid decline, and for practical purposes, for three months you have constant production and then you have a rapid drop-off to nothing. I also

notice in these figures that the total fluid production was going down in that period there from April to May to June of '55. Judging from the figures, I don't call this a steady decline. However, the well did get worse, on this basis. Of course, this has to be tied in with our repeated attempts to work the well over, squeeze jobs and what have you. We used diesel oil for squeeze, and it's possible that we cut down our total production.

Q I would like to ask you, Mr. Rogers, prior to abandoning a lease because the last producing well seems to have exhausted the formation possibilities for further production of oil, don't you have figures that evidence something the same thing as this?

A Would you repeat that? I am sorry.

Q Don't you have a dwindling supply of oil and finally get to the point where you can't produce any more oil prior to abandoning your formation and dropping the lease, writing it off as being depleted, exhausted?

A Yes, sir. We wrote this one off as being an uneconomical producer.

Q Did you believe at the time that if you had drilled another well on that same 40 acres that it would have been economical to have recompleted it as an 80-acre well?

A Well, I wasn't with Pan American at that time. I'll say this, there would be a risk involved in drilling, because we have no way of knowing what location this water has come in, as I

mentioned a while ago, from this stratification, we wouldn't know where to go, to the north, south, east, or west from it. I feel that this 40 acres is basically productive and this is a localized condition.

On the other hand, I'd sure hate to say which direction we should go to get away from the localized condition, and we wouldn't be sure the same thing wouldn't happen again.

Q You admit there is some danger involved and some speculation as to whether or not the 40-acre consisting of the Northwest Northeast of Section 22 is now potentially productive of oil in the Ellenburger formation?

A No, I think it's productive of oil. I think that there is a risk in deciding where you would try to drill on this 40 to get a good well. I think as we went through this cross section a while ago, looking at the completion intervals and the fact that we have wells completed 450 feet below ours, that this acreage is productive.

Q You admit that a safer risk would be taken by Pan American and its joint operators by drilling the Well No. 15 if Pan American can succeed in its application here today?

A Oh, we're much safer drilling where we are.

Q Yes. Is there anything in the rules pertaining either to the Ellenburger, Fowler-Ellenburger Pool or the Fowler-Blinebry Pool which would prevent Pan American from drilling its well in the Northwest of the Northeast of Section 22?

A Let me get the map here. In the Northwest Quarter of the Northeast -- in other words, where No. 3 is located?

Q Yes, sir.

A The only limitation we would have there, of course, would be 150 feet within the center of the 40.

Q Yes.

A Which would allow us to only get 150 feet from No. 3.

Q But for the risk factor involved, Pan American could as well have drilled this, only by making application for the approval of a dual completion your proposed Well No. 15, to be located in the Northwest Northeast of Section 22, but for the risk?

A But for the risk, yes.

Q And yet you propose and you maintain that this 40 acres, consisting of the Northeast Northeast, is still entirely productive of oil in the Ellenburger, so that if you get a well capable of making its top allowable, that Pan American should be granted an 80-acre, full 80-acre allowable?

A Yes, sir, I do.

Q In view of this horrible experience that you have had with Well No. 3?

A Yes, sir.

Q And in view of the fact that you have finally exhausted all efforts and given up on No. 3 and plugged it back?

A Yes, sir.

Q Were any efforts made in Well No. 3 to obviate this freak condition in the immediate vicinity of the well bore which you testified about by sidetracking the well and drilling around the present bottom of the well into another well bore in the Ellenburger?

A No, sir. Again we'd be faced with something similar that we were discussing with respect to a new location, and which direction would you go in? We did deepen this well an additional 400 feet but we made no attempt to sidetrack it. I think that would still be a similar condition to what we discussed for the other well.

Q You say you think it would be a similar condition?

A To what we discussed, as far as risk is involved, in drilling a new well. In other words --

Q By that you mean, of course, that you would expect to run into 100 percent water and no oil?

A I won't say,we won't expect to run into it initially. I think we would have the risk involved of possibly the similar thing happening to our well. We never determined where the water entry was in No. 3. We don't know the zone it was coming in at this depth, and the cost that you are looking at there, it's quite a risk.

Q Are you proposing to dedicate 80 acres to the Blinebry half of this dual completion?

A Yes. It will be a standard Blinebry location.

Q Just to reiterate briefly, Mr. Rogers, it is true from these figures that I have read into the record, which are taken off the monthly Commission report, Pan American did recover and restore some production of oil after it reopened the well in January of 1955, is that not true?

A Yes, that's true. I would like to add one thing here. In the six months of 1955,which would be June of '55,as shown in the cross section, we squeezed around the shoe and drilled out and tested 100 percent water, so that is the first month there that you show zero oil production. So there again we've got another freak where we had a workover and our remedial effort and restored no oil production. From that point on, your figures show no oil production.

Q Is it ordinarily reasonable to assume that a 40-acre section or an 80-acre section, if you please, is productive of oil when you can't get any oil out of it?

A No, sir, this is not a reasonable well.

Q Will you recapitulate your reasoning, why it's reasonable to assume that this 40 acres in question, meaning the Northwest Quarter of the Northeast Quarter of Section 22, is now potentially productive of oil in the Ellenburger so as to entitle it to be ascribed to an 80-acre spacing unit?

A You want me to restate --

Q Your conclusion as to why this is a reasonable presumption.

A Well, I think the main thing that we've shown here, we refer back to the cross section, is the subsea location of the Ellenburger in this well. We've shown here that other wells were completed 450 feet below the top of the Ellenburger in the same common reservoir that are water-free producers. We know that this well, from our core analysis, has a very high permeability and that we had in this area a localized condition of high permeability which, as I said, suggests a strong possibility then that the limited water influx that we were experiencing in this reservoir during the early life would naturally tend to channel through the high permeability zones and log this well with water. Over a three year and eight month period of time, the water that entered the well bore, coming from an aquifer or through this stringer, or we might say this small interval that we suspect would be at the higher pressure, and the water would leave the well bore and the water saturate the Ellenburger in the immediate vicinity of this well, so upon re-entering it, we tested water.

Q Does Pan American make its application in the alternative for the 80-acre spacing unit if allowable or if permitted by the Commission, but if not, then for an allowable for the drilling of this dual completion as a 40-acre?

MR. BUELL: I'll answer that question, Mr. Rogers. Pan American's application is for approval of an unorthodox location, approval of our 80-acre proration unit, and the granting of 80-acre allowable if Well No. 15 will make it, period.

Q (By Mr. Kastler) In the event that Pan American is denied this approval by the Oil Commission, does Pan American intend to come back and propose that it be granted the dual completion at this location for proposed Well 15 as a 40-acre allowable in the Ellenburger and an 80-acre in the Blinebry?

MR. BUELL: Again, Mr. Rogers, I will answer that question. We'll cross that bridge when we come to it, and I certainly hope we don't have to make that decision.

Q (By Mr. Kastler) Do you believe that if you should later on find it necessary to make the application for only a 40-acre allowable in the Ellenburger, that with the excellent communication in the formation you've testified to, Pan American would eventually succeed in draining all of the oil in place?

MR. BUELL: Do you understand that question?

A No, I would like that one repeated. I think I have got it, but let me make sure.

Q (By Mr. Kastler) Undoubtedly, Mr. Rogers, you have contended, or clearly you have contended that this well is proposed to drain 80 acres in the Ellenburger formation. Can you foresee that there would be any waste of oil over the long haul in the event you were forced to apply for only a 40-acre spacing location?

A All right. With respect to the total pool recovery from this reservoir, there would be no loss of oil. With respect to the share of this oil that Pan American receives, there would

be a loss due to migration from our lease. Of course, during the first phase of the life of this well, you might say, when it's capable of making top allowable, we wouldn't lose oil during that phase of it, but our ultimate recovery from the well would be less and we would not recover our fair share of the oil.

Q Do you happen to know if Gulf's Lily No. 1, which is the direct offset, is on the pump?

A That well was worked over. I have no records on it since it was worked over. I know it was classified as a top allowable well. The last record that I have, it was shown to be a pumping well. I suspect that you have made a flowing well out of it, have you?

Q I don't know,myself. It's flowing.

A Is it?

Q Yes.

A Okay.

MR. KASTLER: I would like to request that the Commission take administrative notice of the daily production of Gulf's offsetting well, having in mind that we are seeking to protect correlative rights.

MR. UTZ: How much acreage is dedicated to that well?

MR. KASTLER: 80 acres.

MR. UTZ: How much acreage is dedicated to your No. 3?

MR. KASTLER: Presently, 40.

MR. UTZ: Does that conclude your examination?

MR. KASTLER: That concludes my cross examination.

MR. BUELL: I'll join in Mr. Kastler's motion, if he would particularly refer to his Lily Well No. 3 and the allowable that is currently assigned it on the schedule.

MR. KASTLER: No objection.

MR. BUELL: It's in excess of the 40-acre allowable that the Commission approved.

MR. UTZ: The Examiner will take administrative notice of all production for all offsetting wells.

BY MR. UTZ:

Q Mr. Rogers, when you ran your interference test in preparing testimony for approved 80-acre drainage in this pool, what wells did you flow when you shut in your No. 3?

A I'm not sure which wells were completed at the time that well was shut in. I think if we take our Exhibit No. 4 that we can tell which wells were productive within our South Mattix Unit. If you look on this Exhibit 4, in 1951, in March, where we have the first black dot there, that well was shut in at that time, so that any well that's shown on this exhibit and any original pressure on the well would have to be completed after that well was shut in. So our Wells No. 4, 5, 6, 7, and 8, and then the ones that are not shown would be 9 and 10, they were combined in the field-wide surveys later and we don't have an initial point on here for them. Actually, we only had two wells completed at that time. That would be Well No. 1, the discovery well, and Well

No. 2, which is located diagonally northwest of this No. 3; so that there were two wells completed and then this No. 3 was our third well and it was shut in shortly after completion.

Q The No. 5 was completed after the well was shut in?

A Yes. This No. 5 was completed or the pressure is reported in the early part of '52, if we refer back to our cross section. Yes, completed in December of '51.

Q Those wells were produced at a pretty high rate during the interference test, were they?

A I don't know what the allowables were at that time. They would be on 40-acre allowable during that initial time.

Q There wasn't any exception to transferring the allowable from No. 3 to the 1 and 2?

A I'm sorry, I don't know.

Q Your No. 2 Well, how is it producing now?

A The No. 2 Well was recently worked over and I do not have the latest test on it. I do know that the well tested 100 barrels of oil and no water here, oh, within the last week to ten days. I don't have the re-potential test on it. It was to be put on potential and allowable requested for it. It was water-free on that test.

Q What was the nature of the workover?

A It was an acid job.

Q It wasn't a plugback?

A No.

Q Why did you perform the acid job? Was the production going down or was the well making water?

A The production was going down. This well has made some water but not appreciable quantities. From time to time it has made small amounts, I don't have any figures at hand. I do know that the water-oil ratio was never a problem on it. Back in the early history of this field, some wells were plugged back, making small amounts of water -- this will be indicated on one of the wells on the cross section -- in an effort to keep the wells on flowing status. During the early life of it, we felt we had some limited water influx always, although it was not appreciable.

Q The same questions in regard to Well No. 6.

A Well No. 6 is a top allowable, water-free producer. This well is carried as being a pumping well; however, it will flow and will flow top allowable. It was worked over and has been tested, although the pump is used for agitation and what have you, but it's water-free top allowable.

Q When you drilled your No. 12 Well, down in the Southeast Southeast of Section 22, what was the test on that well?

A This well tested water on drillstem test.

Q That was definitely in the water?

A Yes, sir. It was not perforated or completed. It was abandoned, on the basis of drillstem test.

Q I presume the same would be true for the well, the Jamison Sinclair Well in the Northwest of the Northwest of Section

22, which is shown as a dry hole?

A I don't have the information on this well. I would assume that it tested water or else had tight reef or something. By our structure map, it should have been a water producer.

Q I believe you stated that by drilling a slanted hole or whipstocking out of the No. 3 Well, you felt the risk would be too great?

A Yes, that's my opinion. I don't know what the thinking was at that time.

Q You also stated that the risk would be too great drilling anywhere in that 40-acre tract?

A Yes, sir, I did.

Q Because you felt that you would get too much water?

A If not initially, we'd -- again we wouldn't know which direction to go in, and also we're not sure that we wouldn't have the same problem again. I think it goes back to high permeability we have here. We wouldn't know what to expect on it.

Q Is 80 acres dedicated to your No. 5 Well?

A Yes, sir, it is.

Q The South Half of the Northeast?

A Yes, to my knowledge it is.

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

MR. KASTLER: Mr. Utz.

MR. UTZ: Mr. Kastler.

BY MR. KASTLER:

Q Has Pan American filed an acreage dedication plat covering its Well No. 5, dedicating the South Half Northeast of 22 to that well?

A We certainly haven't done it recently. We didn't have one in our well file in Lubbock, and I checked with the Hobbs office and they had on record that it was the South Half of the Northeast Quarter. That was the source of my information.

Q When was that recorded, made, or dated, or considered?

A I don't know. We made no change on it. It would be whenever the initial ones were assigned, I presume, probably upon securing permanent rules. I don't know.

MR. KASTLER: That's all.

MR. UTZ: Are there other questions?

MR. PORTER: I have one question. Mr. Buell indicated a while ago that the Gulf Lily No. 3 had an allowable in excess of a 40-acre allowable assigned to it.

MR. BUELL: I'm sorry, I didn't hear you.

MR. PORTER: Did you indicate that the Lily No. 3 had an allowable in excess of 40 acres assigned to it?

MR. BUELL: Yes, sir.

MR. PORTER: Is that well limited by order to 40 acres?

MR. BUELL: Yes, sir.

MR. PORTER: Then perhaps this is something that should be called to the attention --

MR. BUELL: I think it was completely an inadvertent

error. I'm sure Gulf is not producing that well in excess of the 40-acre allowable. Whoever prepared the schedule simply assigned the potential for 119, and they assigned the 119 for the allowable.

MR. PORTER: The correct allowable there would be half of what an 80 would be?

MR. BUELL: Yes, sir.

MR. PORTER: I was trying to determine whether or not we should call this to the attention of the District personnel that assigned the allowable.

MR. BUELL: I think it was completely inadvertent. Knowing Gulf as I do, I know they have been only producing their 40-acre allowable on it. Whoever prepared the schedule simply assigned the potential for the allowable.

MR. PORTER: Well, we'll check it out. We will check with Mr. Ramey and have it corrected.

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

(Witness excused.)

MR. UTZ: Any other statements in this case? Do you have any testimony?

MR. KASTLER: No further testimony.

MR. DURRETT: If the Examiner please, prior to the attorneys making their closing statements, I would like to state for the record that the Commission has received what appears to be

approximately a 40 or 50 word telegram from Mr. W. P. Tomlinson from the Atlantic Refining Company, stating that they support the application in this case. I will tender this to any attorney who would like to read it and comment on it. Otherwise, it will be placed in the file.

MR. BUELL: Mr. Examiner, while Mr. Kastler is reading the wire, I might state that Continental sent us a letter of concurrence and entrusted it to us to deliver to the Commission, and I have misplaced it. I would like to have the permission of the Examiner, and I hope Mr. Kastler, that when I find it, that the record may remain open so I can submit it. It simply concurred generally with our application here today. I say generally, it concurred specifically, really.

MR. KASTLER: He's stated that Gulf's integrity is all right, and I'm sure his is, too. May I make my statement now?

MR. UTZ: Yes, sir, you may.

MR. KASTLER: I would like to make it very, very brief. All I wish to say is that Gulf opposes that portion of Pan American's application which seeks the approval of an 80-acre dedication to this proposed Well No. 15 in the Ellenburger, because we feel that it would lead to an impairment of our correlative rights and drainage of our well. That's all.

MR. UTZ: Speaking of your No. 1 Lily?

MR. KASTLER: No. 1 Lily.

MR. UTZ: Are there any other statements?

MR. BUELL: Yes, sir, I would like to make a brief closing statement on behalf of Pan American.

Mr. Examiner, I think the record is conclusive and uncontradicted that the entire 80 acres that we propose to assign and attribute to Well No. 15 can reasonably be considered as productive from the Ellenburger reservoir. I refer the Examiner's attention to the cross section, which shows several wells that are currently producing at a depth lower than the No. 3 Well. Even if this was an active water drive reservoir and you had the normal influx of water and the normal watering-out of wells, you wouldn't have the situation that you see in this pool now with wells producing water-free 400, 450 feet lower than our No. 3 Well.

What happened to that well, it was simply a freak. Mr. Rogers advanced his opinion, which I think is reasonable, as to what happened. There are a lot of other opinions as to what happened, but everyone realizes that the conditions that existed in that well when it was returned to production after a three-year shut-in, it was just simply a freak. It's one of its kind and in no way condemns the acreage in the vicinity of that No. 3 Well.

Pan American proposes to drill in the East Quarter of this 80 acres rather than the West Quarter; although that is a highly localized condition, we don't know in which direction it is. We may in that quarter-quarter section encounter the same

extremely permeable zone that was found in Well No. 3 and find ourselves back in the same situation that we were in with No. 3.

For that reason, we think that it is only reasonable, since we are gaining no advantage from a structural standpoint, due to the producing mechanism of this reservoir, to drill in the East quarter-quarter rather than the West.

If the Examiner, while he's looking at Exhibit No. 1, will look along the east line of the South Mattix Unit where it has a common boundary with the two Gulf leases, you'll see that Gulf has currently three Ellenburger completions, as opposed to the South Mattix Unit, only one. I think it's pretty obvious from there, if correlative rights are currently being impaired, Gulf's are not being impaired as much as Pan American's and the other owners in the South Mattix Unit. They have three Ellenburger wells on approximately 160 productive acres. We are asking for our Well No. 15 on 80 productive acres.

In the interest of protecting the correlative rights of the owners of the South Mattix Unit, we urge that the Commission approve our application as it was requested.

MR. UTZ: Any other statements? The case will be taken under advisement. We will take a short recess.

(Whereupon, a short recess was taken.)

* * * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

WITNESS my Hand and Seal this 22nd day of July, 1963.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2654, heard by me on July 10, 1963.

Examiner
New Mexico Oil Conservation Commission

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