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ALBUQUERQUE, N. M.
PHONE 243-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 28, 1962

EXAMINER HEARING

IN THE MATTER OF: Application of D. W. Falls, Inc. for the assignment of a special temporary deliverability for allowable purposes to its Federal Well No. 2-11, located 1190 feet from the South line and 2210 feet from the East line of Section 11, Township 28 North, Range 13 West, San Juan County, New Mexico, which well is completed in the Basin-Dakota Gas Pool. Applicant proposes that the deliverability to be assigned to said well be the average deliverability of all gas wells in the Basin-Dakota Gas Pool.	CASE 2515

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 2515.

MR. WHITFIELD: Application of D. W. Falls, Inc., for the assignment of a special temporary deliverability for allowable purposes to its Federal Well No. 2-11, located 1190 feet from the South line and 2210 feet from the East line of Section 11, Township 28 North, Range 13 West, San Juan County, New Mexico, which well is completed in the Basin-Dakota Gas Pool.

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MR. COOLEY: William J. Cooley, appearing on behalf of Applicant D. W. Falls, Inc. We have one witness.

MR. UTZ: Are there other appearances in this case?

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

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, appearing for Southern Union Gas Company.

MR. UTZ: Any other appearances? You may swear your witness, Mr. Cooley.

(Witness sworn.)

THOMAS A. MORGAN

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

DIRECT EXAMINATION

BY MR. COOLEY:

Q State your full name for the record, please.

A Thomas A. Morgan.

Q By whom are you employed, Mr. Morgan?

A Aspen Drilling Company.

Q And in what capacity?

A I'm production superintendent.

Q Are you a graduate petroleum engineer?

A No. I'm a graduate geophysicist. I'm an engineer, if

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that's any help.

Q What is your connection and that of your employer with the Applicant D. W. Falls, Inc. in this case?

A We contracted to drill this well, to operate the well and to provide all the engineering services required to produce the well.

Q Have you previously been qualified before the New Mexico Oil Conservation Commission as an expert witness in the field of engineering?

A I have.

MR. COOLEY: Are the witness's qualifications acceptable?

MR. UTZ: In what instance were you qualified?

A It was approximately a year ago. We were down here and secured some non-standard units for these wells that we're talking about right now.

MR. UTZ: You are familiar with the circumstances surrounding this case, aren't you?

A Very much so.

MR. UTZ: Qualified.

Q (By Mr. Cooley) Were you the engineer that sat on this well?

A Yes.

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Q Was it drilled under your supervision?

A Yes.

Q Have you prepared a plat showing this well and other wells in the area?

A I have a plat showing this well.

MR. COOLEY: We request that this plat be marked as Applicant's Exhibit No. 1.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q On Exhibit No. 1 you have two wells shown thereon circled in red. Would you identify those two wells, please?

A The one in Section 11 is the well in question, the Federal 2-11, the one to the North as Aztec, is an Aztec well called Hagood 3.

Q Approximately what is the distance between these two wells?

A Approximately a half a mile.

Q Would you give the completion history on this well as briefly as possible, Federal 2-11?

A The Federal 2-11 was spudded on 20th September, 1961, drilling was completed on 9th October, 1961, the well was logged, we ran an induction electric log and a gamma ray sonic. The electric log was run from T. D. which was 6443 to the bottom

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of the surface at 150 feet. The sonic was run over the Dakota and Gallup zones. After the log was run, 5½" casing was run to 6440 and cemented from T.D. to above the top of the Gallup formation. There is a D.V. tool set in the Pictured Cliff formation, is also protected by cement.

The Dakota was perforated with two jets per foot from 6266 to 76, 6284 to 90, and 6346 to 70. We opened a total of 40 feet. The frack was, I would consider a conventional Dakota frack. We used 90,000 gallons of water, 60,000 pounds of 2040 sandy drop 50 balance, had good balance action. A Baker Model D packer is set below the Gallup, and inch and a half tubing was run to 6330 to produce the Dakota. 6230. If you want to examine the logs -- do you want to go into that?

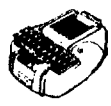
Q Not yet. You referred to two logs in your most recent testimony. Do you have copies of those logs?

A Yes, I have the induction electric log and the gamma sonic on the 2- --

MR. COOLEY: Request that the induction be No. 2 and the gamma ray sonic be marked as 3.

(Whereupon, Applicant's Exhibits Nos. 2 and 3 were marked for identification.)

Q From an examination of these logs, what indication is given as to the type of zone encountered in the Dakota producing interval?



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A There are two main pays shown on these logs; we will refer to it as an upper and lower sand. The upper sand has 10.5% porosity, the lower sand is about 10%, the sonic indicates that fracturing is present in the Dakota, vertical pressure.

Q What type of producing characteristics does this well have?

A After this well was completed -- I want to add a little something here. Being familiar with the area, we anticipated the well to make a great deal of fluid and consequently we selected some separation equipment that would be adequate to handle almost anything I would encounter. For the record, this is a Maloney Bunny oven is what it's called, a gas production unit, it has a 500,000 BTU per hour heater. It also has a 16", 10 foot, thousand pound, three-phase separator.

This particular piece of equipment should handle any Dakota well encountered in the basin.

Q Did you attempt to run an initial potential test?

A Yes, the well was cleaned up in normal fashion and shut in for seven day IP. This test was, I tried to run the test on the 31st of October. I was unable to do so. The test, I might add, was a typical IP, is run on a 3/4" choke. I tried to open this well with 3/4" choke, the fluid rate was too high, the separation equipment would not handle it. I could not open

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the choke more than 18/64ths. Consequently, I went and ran a twenty-four hour potential test on this choke setting.

Q What was the result of that test?

A The well made 140 barrels of oil, 1,060,060 MCF and approximately 140 barrels of water.

Q Did you subsequently attempt to test this well again?

A Yes, I did. We turned the well back on on the 21st of November. On the 22nd, the following day, in twenty-four hours on a 16/64 choke, the well flowed 201 barrels of oil, approximately the same amount of water, it made 840 MCF, and that gives you a gas-oil ratio of about 4,170 to 1.

MR. UTZ: What was that GOR again?

A The GOR was approximately 4,170 to 1.

Q What was your gas fluid ratio?

A Well, it would be about half of that. It would be about 2,058 to 1.

Q Did you attempt to run any test after that?

A Yes. The well was produced the next day too, but because of shortage of storage facilities, the well was shut in for a short time. It produced 71 barrels.

The following day the well, on a 16/64, produced 60 barrels and died. An effort was made to clean the well out, we opened the well to the atmosphere opening to blow it out. We knew it

had logged up, hoping to clean it up, the well was dead, it would not come back on. That was on the 24th. On the 29th I gave up hope and got a swabbing unit out there and swabbed the well back in.

Q Now, to clarify this testimony, are we to understand that even when attempting to blow this well to the atmosphere, that it completely died?

A Right, it was dead. There was no way you could kick it off without swabbing it.

Q It ultimately had to be swabbed in?

A Yes.

Q Did you run any subsequent tests?

A We continued to test the well, I swabbed it in on the 29th. The following day on the twenty-four hour test on 18/64 choke, the well made 126 barrels of oil, same amount of water, 681 MCF, that gave us a GOR of 4,850 to 1.

Fluid-oil of 2,420 to 1. Gas fluid, I guess. We continued to test the well, let's see -- on the 1st of December I had the well on 8/64, it made 58 barrels of oil, 637 MCF, had a GOR of approximately 11,000 to 1. Fluid-oil ratio being about half of that, 5,500 to 1.

The next day we produced it for twenty-four hours on 12/64, made 95 barrels of oil, 637 MCF; GOR, 6,600 to 1. The

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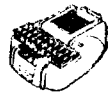

fluid-oil ratio was half of that. The well produced for five days and died again.

By the way, I never did open the well up over 18/64, keeping it mostly on 12 and 8/64. From the experience I had had before, I did not try to blow the well in, hoping to conserve all the pressure I had, hoping that more gas would break through the column of liquid and I could kick the well off. I had the well shut in for fifteen days. Part of this was because of the foul weather we had up there.

The well went back on the 21st on 18/64, the well flowed 102 barrels of oil, still making about as much water, 964 MCF; GOR was 9,450 to 1. The fluid, gas-fluid ratio was about 4,730 to 1. I continued to test the well in this fashion for a period as long as it would produce, the longest being five days, and came up with an average gas-oil ratio at the end of these tests of 8,000 to 1, and that's, my gas-fluid ratio would be about 4,000 to 1.

Q Under the standard Commission-required deliverability tests, how many consecutive days is a well required to be produced?

A Your deliverability tests are run in this fashion: you have a two-week conditioning period, a one-week flow period and a seven-day shut in.

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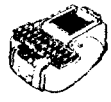

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Q Under any of the choke sizes or any other system that you have tried to date, do you believe that this well could possibly produce twenty-one consecutive days?

A No, I can't get it to produce over five days.

Q What do you believe is the reason for this failure to produce more than five consecutive days?

A It's rather obvious we have a fluid problem, in addition to making substantial amount of oil we are making almost as much salt water.

Q What are the comparative weights of the oil and salt water?

A Well, I made a calculation when the well was logged off, assuming I had half, I found, by the way, when I swabbed the well in, fluid was about a thousand foot below the surface. Assuming you have a, this is just an assumption, that half of that column was oil and half salt water, your oil would exert a 990 pound pressure and the salt water would be 1,620, that totals out to be about 2610 pounds, which is probably a little high because bottom hole pressures in the area probably run around 2500 pounds.

Q Well, it's safe to assume that when it was tight there was no pressure at the surface whatsoever?

A Oh, no, no, the surface was dead.

Q It's safe to assume that the reservoir pressure and

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the fluid level, the hydrostatic head had created an equilibrium, is that correct?

A That's right.

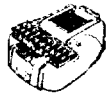
Q Do you have any information concerning the calculated reserves, gas reserves in this well?

A Yes, I do. I have secured information from the purchaser who we have a contract with to buy this gas, being El Paso, and they have made calculations, reserve calculations for all Dakota wells -- well, I don't know if it's all the Dakota wells that they buy gas from or not, but they have made estimates for some 457 Dakota wells in the San Juan area. The results of this show that the average reserves are approximately 3.1 billion MCF. If this assumption is true, by the way, this information is taken from an analysis of the logs, it's all done in a like manner, each well treated fairly, and it was done to the well in question, the Federal 2-11, when the reserves were calculated to be 3.02 billion cubic feet of gas.

Q Then, from this information, what is your conclusion as to the reserves in place on the Federal 2-11 well?

A 2-11 is, as far as I'm concerned, an average Dakota well.

Q That's, the average well as calculated by the purchaser, was 3.1 billion?



A That's right.

Q And the Federal 2-11 was 3.02 billion?

A Yes.

Q Have you compared the log on the Federal 2-11 well with any other well in the area?

A Yes, I have. You can compare it with the Aztec Hagood 3 well which is, as we have said, about a half a mile away.

Q Is this the closest well to the Federal 2-11?

A It is.

Q Comparing those two logs, what is your conclusion?

A Looking at the logs, I feel that the 2-11 is, for all practical purposes, as good a well, or should be as good a well, as the Hagood 3.

Q Are there any differences at all in these two zones that you referred to, the upper zone and the lower zone?

A Yes, there is some difference. In the 2-11, the upper sand is better developed, it's a much better sand; in the lower sand the Hagood 3 had a better development.

Q Considering the overall pay in the two zones, your conclusion is that they are about equal?

A The wells are about equal, or should be.

Q Was an initial deliverability test run on the Hagood 3 well?

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A The initial IP was run and the potential on 3/4" for three hours at 3,650,650 MCF, that's absolute open flow; deliverability test was not run when the well was first completed.

Q For what reason?

A Proration wasn't in effect at that time.

Q When was that well completed?

A That would be in February, 1960.

Q When was proration instituted?

A Goodness, I don't know. February, 1961, that's right.

Q Do you have any information concerning the allowables that were allocated in February of 1961 in the Basin-Dakota Pool?

A Yes, I have some information. Apparently the Dakota allowable at that time was 2,745,787 MCF.

Q Was that for the month of February, 1961?

A That is right.

Q And how many wells were in the pool at that time?

A 271 wells were being considered.

Q Dividing that many wells, what was the average for the pool?

A 10,132,132 MCF per month.

Q What allowable did the Hagood 3 well have?

A 10,978,978 MCF for that month, which is above average for the pool.

Q If the applicant is required to follow the Commission

rules and regulations as they now exist, and not granted any exception whatsoever, what would be the result?

A Well, handling the well as we have in the past, you can not successfully run a deliverability test. The well will not produce for twenty-one consecutive days, and if I personally was testing the well and the well logged off during the flow week and was logged off for five days, I would have to break the test. I couldn't consider that a fair test.

Q Even if the conditioning period of two weeks were waived, would it be possible to, under the present circumstances, to flow this well for seven consecutive days?

A It would be very debatable, not at a very high rate.

Q Have you ever been successful in flowing it as many as seven days?

A No.

Q What's the greatest length of time you have ever been able to flow it?

A A little over five days.

Q Then if it were impossible for you to run a deliverability test and turn this in to the Commission, you must assume that theoretically this well would never be granted an allowable in the Basin-Dakota Pool?

A Without some special consideration, I assume we would

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not get an allowable.

Q Summing up your testimony, do you feel that this well should be granted an allowable and a deliverability which in turn would determine its allowable equal to the average well in the Basin-Dakota Pool today?

A I believe that this is an average Dakota well except for the liquid problems we have present. As far as gas in place, it is approximately average.

Q Do you have any ideas in mind on how you could produce this well in the future if granted an allowable that might alleviate this problem, any mechanical means?

A Yes, we have a solution, we hope it will work. Once the well is tied in and we can again produce, I'm going to put a free piston in the well and I hope that this will solve some of our problem.

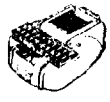
Q Have you attempted to determine where this excessive amount of salt water is coming from in this formation?

A Yes. I have studied that quite carefully.

Q Would you point out on the log the area where you believe this water to be coming from?

A I personally feel that the salt water is coming from a depth of -- this is on the induction log, of 6395, approximately.

Q To what?



A Well, there's about a, it's hard to say how much of a zone we have down there producing that water. It's possible we could have six, six feet.

Q Are you perforated into this zone?

A No, we did not perforate this zone.

Q Why do you feel that you are producing it?

A Well, I had what I considered at the time a very successful frack. I had excellent balance action and I feel that probably because of the fracturing encountered in the Dakota, or possibly, well, that's probably as good a reason as any, we broke into this water sand and that's that. We are there.

Q Do you believe that there is any mechanical means by which you could shut off this water now?

A I don't think anyone can say whether you can shut it off. You can try. You might just shut off your main Dakota sand at the same time.

Q Are these problems enhanced by the fact this is a dual completion?

A Yes, they are. We have a very good, Mr. D. W. Falls has a good Gallup well producing above this zone, and I would recommend that nothing be done to injure that particular producing horizon.

Q Do you feel that if some sort of relief is not granted

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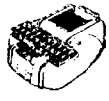

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this well that there's going to be oil left in the ground as a result of being denied the right to produce this well?

A Definitely there's oil down there, we know that.

Q Do you believe this is also true of the gas?

A Yes, there's gas down there.

Q Do you believe that if this well were granted average deliverability, and assuming an average allowable, this would result in the damaging of the correlative rights of any other operator in the pool?

A No, I don't think it would.

MR. COOLEY: No further questions at this time.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Morgan, I wonder if you would repeat your perforated intervals?

A Yes, I would be very happy to.

MR. COOLEY: Before you get into that, these are the Hagood 3 logs. You had better make those Applicant's Exhibits 4 and 5.

(Whereupon, Applicant's Exhibits Nos. 4 and 5 were marked for identification.)

A The Dakota is perforated again with two shots, two jets per foot from 6266 to 76.

Q Hold it a minute. 6266 --

A To 76, 6284 to 90, 6346 to 70.

Q I'm way behind you. What's the second one?

A 6284 to 90, 6290, and then on down in the main sand there is 6346 to 6370.

Q On the last test your GOR was something like 8,000 to 1?

A That was an average calculated from all over the entire testing period. It averaged 8,000 to 1, approximately. That's gas-oil ratio.

Q When you arrived at the 8,000 to 1, how much fluid did you produce, how much oil and how much water?

A We were making approximately the same amount of water as we are oil.

Q What was the volume of oil?

A Well, that gas-oil ratio is an average calculated on the entire test, I produced at different choke setting, I produced from 201 barrels on down to as low as at times 4 and 5 barrels a day.

Q How many days did you run this test before it logged off?

A The longest period I ever ran it was somewhat over five days. It logged off, I believe, either on the 5th or 6th day.

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Q So, over the period of say five days that you were testing this well, you can't give me a total oil figure?

A Oh, yes, I can for that period.

Q That's what I want.

A 521 barrels. If you would like to have that gas-oil ratio and that gas-fluid ratio I can give you that too, average for that period.

Q So you, if you applied your 8,000 average to that, you would have produced in five days 4,168,000 cubic feet of gas?

MR. COOLEY: Just a moment, he will calculate the exact --

Q I used the 521 barrels of oil, you said you had an average of 8,000 to 1 GOR?

A Right.

Q I calculated 4,168,000.

A I actually produced from these figures 3,209,000. That 8,000 figure, now, is based on the entire test.

Q 3,209,000? A Right.

Q Do you have the data to show how long the well was actually on, how long you flowed it, how many hours or days?

A Yes. I can do that. On the 30th is the first complete day, these are twenty-four hour tests, now, and it was an 18/64" choke. I made 126 barrels of oil, 661 MCF. On December 1st,

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on an 8/64 I made 58 barrels, 637 MCF; on the 2nd on 12/64, 95 barrels, 637 MCF; on the 3rd, on an 8/64, 58 barrels, 637 MCF; on the 4th, an 8/64 choke, 84 barrels, 637 MCF. If my addition is not incorrect, that should check out --

Q What kind of pressure was this producing against, through the separator?

A Yes. I held, at this particular time I could hold whatever pressure I wanted to on the separator. I tested it at times holding 500 pounds back pressure. Other times I held 250. Whenever the tubing pressure equalizes with the separator pressure, the well dies.

Q This gas was flared? A Yes.

Q You are asking here for an average deliverability for the Basin-Dakota Pool?

A Yes.

Q Do you have any idea what the average is?

A I've heard various figures, I can not tell you exactly what it is, no.

Q Around 2900 sound about right?

A I would say approximately 300, 340.

Q Do you feel that it would be fair to assign an average deliverability to this well in this area, which average would include some of the best wells in the Basin? In other words,

do you think that this area is as good as many of the areas in the Basin?

A This area is very good. There's a well, I think it's approximately two miles north of us, it's a Teneco well and that well came in for better than twelve million, I believe. I think last month it had an allowable of something like 270,000,000. I may be wrong on that.

Q Is that twelve million a three hour absolute open flow?

A I think it is.

Q The deliverability would be substantially less than that, would it not?

A Well, the last information I was looking at to see what their allowable was, I think for February or March their allowable was better than two hundred million.

Q Mr. Morgan, would you feel that the fair way to assign a deliverability to this well would be to take the known pressures for 1961 tests for all wells in the immediate area and use those average pressures and apply your Q to them that you run your GOR's from? It would appear that your Q on your GOR's was around 637 cubic feet per day. A person could use the pressure data which you were unable to obtain for all surrounding wells and apply that to your volume of gas and come up with a deliverability that might be more reasonable than the average

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for the entire pool. In other words, this should be an average for the area.

A To do that, the wells, the offset wells in the area were drilled two years ago, and I think to compare them fairly we would have to compare our well now to what their wells were then. Apparently the deliverability information isn't available.

Q Isn't available for what?

A Well, on the wells in the area, what are you referring to there?

Q To the total wells in the immediate area.

A All right, they did not run a deliverability test when those wells were first completed. It was almost a year later before they had any information on them other than absolute open flow.

Q Do you recall that using those pressures would give you lesser deliverability than you actually have?

A I don't understand you.

Q Well, you were comparing your well as being a new completion?

A Right.

Q And you say the deliverabilities, pressures on all offset wells were taken after the wells had produced a year?

A No, they had IP shut in pressures on their wells too.

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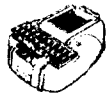

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Q I don't believe I quite understand your answer to my question. Do you feel that by using the average pressures in this area you would be getting a lesser deliverability than you are entitled to, or would it be average for the area?

A I don't know, I would have to look into that. I can't compare that well with the older wells. Their pressures have declined considerably on that offset well. I can give you what pressures they are running and what pressures I have. I can tell you what my initial shut in pressure was and so on, if that will help you.

Q You have reported that information to the Commission, have you not?

A Yes, sir, I think I have. Yes, I did. That should be on file.

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

BY MR. NUTTER:

Q Mr. Morgan, all this testimony relative to the difficulties of obtaining a twenty-one day test on the well would point to the fact that you would consider it a gas well. Have you ever considered calling this an oil well?

A Let me answer it this way. I don't know what to call this thing. That's what I would like to do, is to be able to

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produce it for a year and evaluate the thing and see just what we have. I've talked to a great many people about it. People believe that the gas-oil ratios will go up, maybe it is a gas well. I don't know.

Q Now, you have 1½" tubing installed here, is that correct?

A Yes, sir, I did that for two reasons. One reason, I anticipated a fluid problem. The other wells in the area make a lot of oil and on smaller pipe, you can use a lesser volume of gas and you can produce with fewer troubles. If I had 2" tubing in that thing I really would have a headache.

Q It appears to me that a well that makes some three to four hundred barrels of liquid a day, and 637 MCF of gas, could conceivably be classified as an oil well and maybe with a 2" string of pipe you could pump the well, you wouldn't have any twenty-one day testing problem.

A Yes, that's very possible.

Q What would happen to you if your well were classified as an oil well?

A Right now I can not pump it. I don't want to do a thing to hurt the Gallup. I have 5½" pipe, I can't run 2" pipe inside there right now. I can't pump it, and that may be the answer, I don't know. Maybe this piston will help me. Maybe I can produce the thing with a piston.

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Q Do you have a free piston in there at the present time?

A I have one in stock. I haven't installed it. I can't produce the well, it's shut in now. I intend to put that in the well just as soon as we are connected.

Q Is there a connection available for the gas at the present time?

A No. The connection has been staked but the physical connection has not been made to date.

MR. NUTTER: That's all.

MR. UTZ: Any other questions? Mr. Buell.

BY MR. BUELL:

Q Mr. Morgan, do you recall off hand the total production from this well since it's been completed, both oil and gas?

A I can give you the oil. We have produced approximately 3,000 barrels of oil.

Q Do you know off hand at this time what acreage is currently dedicated to this well?

A Yes, sir, I do.

Q Would you state for the record what it is?

A Yes. All of Section 11, 28 North, 13 West, the Southwest of the Southwest of Section 12, and Lot 4 of Section 12.

Q How many acres does that total up, Mr. Morgan?

A I don't recall exactly what it is, approximately 340.

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You probably know the figure better than I. It's approximately 340 acres, isn't it?

Q Are you sure at this time that all of that acreage is dedicated to this well?

A Let's put it this way, the Commission has stated that this acreage is dedicated to a Dakota well, we are in the process now of communitizing with Pan American. Well, I don't know whether I can say they own Section 12 or not, it's part of the Gallegos Canyon Unit.

Q The only point I wanted to make is the fact that you are now actively engaged in forming what the Commission has already approved--

A Yes.

Q -- as a non-standard Dakota gas unit?

A Yes, sir. I have no objection to the unit they have set up.

Q You are actively engaged at this time in voluntarily pooling the acreage that you don't own or control to form this non-standard unit?

A Yes.

Q So, actually, until you can get that work done, even if the Commission should grant you your request here today, you would be unable to produce the well?

A I don't know how to answer you there. I've talked to various people about that. I don't know at this time.

MR. BUELL: That's all I have.

MR. UTZ: Are there any other questions?

MR. COOLEY: I have some redirect.

MR. UTZ: You may proceed, Mr. Cooley.

REDIRECT EXAMINATION

BY MR. COOLEY:

Q Have you compared the pay thickness in the Federal 2-11 with the total pay thickness in the Hagood well offsetting to the north?

A I have examined it, I don't have those figures right here.

Q Are they approximately the same?

A Yes, they are.

Q You were questioned by the Examiner, did you think that it would be more fair, I believe, paraphrasing his question, to compare this well with existing producing potentials and pressures as of the present day with the Federal 2-11 which has just been completed. Do you think that it is fair to compare an initially completed well with one that has produced substantial quantities of gas over a two-year period?

A I would have to examine it a little closer. I wouldn't

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want to compare it right off.

Q Do you think a more fair comparison would be that the data on the offsetting wells, from the date that they were completed, compare them with the data on the Federal 2-11 when it was completed?

A If you can find comparable data, that should be a fair comparison.

Q Mr. Nutter asked you if there was a gas connection available. Physically speaking, what is the proximity of this well to a gas gathering system?

A I believe it's about a hundred yards.

Q And has a contract been signed for the purchase of this gas?

A I believe it has.

Q Do you anticipate producing this well prior to actually receiving a gas connection?

A No, that well is shut in until we get a connection.

Q As you testified, the Commission has already established the acreage dedicated to the well as a non-standard Dakota proration unit, is that correct?

A Yes.

Q Evaluating the possibilities, the acreage can either be voluntarily pooled or force pooled, is that correct?

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A I assume that is true.

Q Do you have anything further in conclusion?

A I will say this, this is just my personal feelings, this is, I think, a good well. This well will pay for itself, it will make money if Mr. Falls is allowed to produce the thing, if we can come up with some kind of an allowable. I don't think that he should be penalized because he has a well that's making a lot of oil or a lot of water when the gas and the oil is present, if we can get it out, are given a chance to get it out.

Q As you will note, this application is for a temporary period of one year only. Do you feel this is a reasonable period of time in which to evaluate this one?

A Yes, I do. I feel like I can use all of one year and would probably like to have some more time.

Q Do you feel that there's anybody else better acquainted with this well than yourself?

A No, sir, there's no one who has been associated with it as closely as I have.

Q Are there still a lot of questions concerning this well that are still unanswered even to you?

A Yes, sir, a great many questions that I can't answer.

Q Do you feel that a good number of these questions could well be answered within this temporary period of one year which

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we're requesting?

A I will do this, let me say this, I'll do this for the Commission, for the record, for everyone in the San Juan Basin. We will keep accurate records of production, of pressures, and all the information we can that will help us solve this problem at the end of this time if we're granted this approval.

Q If it becomes possible within a period of less than a year to produce this well and to get deliverability tests that are accurate and that fairly reflect the actual deliverability of the well, would you then anticipate coming to the Commission and requesting permission to run a test and base the well's allowable on these tests?

A I would be very happy to do that, and if any other company feels that it should be done, they're welcome to, I'll go along with that.

MR. COOLEY: No further questions.

MR. UTZ: Are there further questions? The witness may be excused.

(Witness excused.)

MR. UTZ: Does Pan American have some testimony?

MR. BUELL: No, we do not.

MR. McGRATH: P. T. McGrath, Geological Survey. The well is on Federal land. We would like to have the Commission

make some provision for them to produce this well. It's not fair for it to sit there and be shut in, whether its deliverability or the wells around it, whatever, but it should be produced.

MR. UTZ: We will call for statements in this case.

MR. BUELL: Guy Buell for Pan American Petroleum Corporation. It appears pretty obvious from Mr. Morgan's testimony that this well has some extremely unusual characteristics with the resultant producing problems that such characteristics cause. However, Pan American is opposed to the assignment of an arbitrary deliverability figure for this well in that we feel from a technical standpoint any well that you can produce you can obtain a deliverability on.

MR. KELLAHIN: Jason Kellahin for Southern Union Gas Company. Southern Union Gas Company recognizes that this is a rather serious problem which faces the Commission, and our concern is not so much over this particular well, but over the pattern which may be set which will affect other wells in the area.

In the first place, we recognize from the testimony that this is an unusual situation which has been presented to the Commission for the first time. We don't think it's the last time that it will be presented to the Commission, however. On the basis of the testimony we do not feel that this has been

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shown to be an average well. Actually, on the basis of the test information available, it would appear to be something less than an average well.

Any action taken by the Commission in assigning an allowable such as, for example, the request of the applicant in this case for the average deliverability of all the wells in the pool, would of necessity be something of an arbitrary decision, meaning no reflection on the Commission's action. They have nothing else upon which to base it, but to arrive at some rule of thumb and say "This is what we're going to try to do", on that basis we propose that the allowable assigned to this well should be in the neighborhood of six to nine million a month in order not to penalize normal Dakota production on the basis of, for example, an average of eight million that a 4,000 to 1 gas-oil ratio, this would result in about 2,000 barrels of oil production, which appeals to us as being representative of the situation which exists in this particular well, and would be fair to any other wells which might find themselves in the same situation.

We certainly concur with Mr. McGrath, we think they ought to have an allowable.

MR. McGRATH: I want to add something to Mr. Buell's testimony that any well that can be produced can have a deliverability taken, that's true, but not under the rules as set up by

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the Commission, because you can't produce that well for twenty-one days, just to keep it straight.

MR. UTZ: Free piston you might be able to.

MR. McGRATH: Might be able to, yes.

MR. UTZ: Any other statements? Mr. Cooley.

MR. COOLEY: Based upon the uncontraverted testimony in this case, I would like to point out to the Commission that the reserve calculations by El Paso Natural Gas Company show this well to be within eight-tenths of one percent of the average reserves as calculated by El Paso for all wells in the Basin-Dakota Pool. Recalling to the Examiner the pool average being 3.1 billion, while the calculated reserves for this well is 3.02 billion. This does not indicate that this well is anything other than an average well in gas reserves.

I would also point out to the Commission and Examiner that under the rules and regulations of the Commission, and the statutes of the State of New Mexico, an operator is entitled to produce his reserves in proportion to the pool reserves, which would mean that we would be entitled to produce an average amount.

Now, we have encountered an extremely serious water problem. We have to produce, the gas in our well has to lift approximately three to four times as much liquid by weight as any other well

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in the entire area. The fact that you have got some water in the bottom of the hole does not seem to me to be a valid ground for denying the applicant the right to produce his gas that he's got there along with it. This water problem may subside, we've only asked for a temporary relief.

No one would like better than the applicant to see this well perform like the other wells in the area, but until we have whipped this water problem, we feel that we are entitled to certainly some sort of special treatment. We think we have proposed a fair and equitable solution to this problem. We have proven that we have got average pay thickness, average reserves, and consequently I believe that we're entitled to produce an average amount of gas.

We have got a lot of problems, we think we can whip them, but we have to have some special relief until such time as this well can be produced for a longer period of time and possibly get rid of this water problem.

The point that was made a minute ago that a certain quantity of oil production from this well would be a fair amount of production to allow the applicant to have, I feel is very invalid. The amount of gas that you are entitled to produce in the Basin-Dakota Gas Pool is the thing that's prorated, the fact that you have got some oil with it is a bonus. Everybody is glad to see

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it there, but it does not determine your gas allowable. Consequently, I don't believe the presence of oil in this well should determine its gas allowable or be justification for setting its gas below.

Certainly any comparison between this well and any other wells in the area I feel must be made on a basis of the age of the well at the time and the life of the other wells that you are comparing it with. I certainly don't believe it's fair to give a new completion the allowable of a well that has produced for two years and drawn its pressures and reserves down.

Were it not for the presence of liquids in this well, we would have a much higher deliverability and much higher ability to produce gas, and consequently would receive a higher allowable until we have produced our reserves down. So, any comparisons I feel must certainly be made between the initial data on the wells in the area, and the information produced is, insofar as available, that the other wells in the area, particularly the Hagood No. 3, even a year after it was completed had a higher than average allowable, and presumably therefore a higher average deliverability than the wells in the pool in February, 1961. Thank you.

MR. UTZ: Any other statements?

MR. SWANSON: Kenneth Swanson for Aztec Oil and Gas

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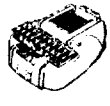
Company. We feel that the evidence presented today would lead to a conclusion somewhat in the nature of that suggested by the Examiner and also that proposed by Southern Union. An allowable which is based on the best possible guess as to what the average situation is in that immediate area, we think, would be the way to approach this. That would give the applicant an opportunity to produce his well and make whatever tests or do whatever work on the well he thought was necessary.

After that opportunity had been afforded to him, he could perhaps come up with the testing of the well and then show that the deliverability was in excess of the allowable that would more or less be arbitrarily assigned by the Commission.

MR. UTZ: Any other statements?

MR. WOODRUFF: Norman Woodruff, representing El Paso Natural Gas Company. I would like to confirm that El Paso Natural Gas Company has signed, with the applicant in this case, a high pressure gas purchase contract. This has been done in the belief that with production from this well, this well will perform as a gas well.

It is our understanding from the evidence available that only production can prove what the nature of this well will be, which would, of necessity, then require that this well, through some mechanism, would receive an allowable. It is our belief that



any allowable should be granted, based on the utilization of a deliverability attributable to this well. In this manner, this well's allowable will fluctuate as other wells' allowables will as market demand increases and decreases.

We would concur with the applicant, D. W. Falls, in this case.

MR. UTZ: Any other statements? No further statements, the case will be taken under advisement. The hearing is adjourned until 9:00 A.M. in the morning.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 2nd day of April, 1962.

Ada Dearnley
Notary Public-Court Reporter

My Commission Expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2515, heard by me on Mar. 28, 1962.

....., Examiner
New Mexico Oil Conservation Commission

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