CASE 7185: EL PASO EXPLORATION COMPANY FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY, NEW MEXICO

Case No.

7185

Application

Transcripts

Small Exhibits

ETC

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5434

April 8, 1981

Mr. Dave Burleson, Attorney
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

Re: CASE NO. 7185
ORDER NO. R-6634

Applicant:

~~El Paso Exploration Company~~

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD ____x____
Artesia OCD ____x____
Aztec OCD ____x____

Other _____

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7185
Order No. R-6634

APPLICATION OF EL PASO EXPLORATION
COMPANY FOR DOWNHOLE COMMINGLING,
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 11, 1981, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 7th day of April, 1981, the Division Director, 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 Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant requested that the application be amended for purposes of this hearing from El Paso Exploration Company to El Paso Natural Gas Company.

(3) That such amendment should be approved.

(4) That El Paso Natural Gas Company is the owner and operator of the Turner Hughes Well No. 17, located in Unit H of Section 10, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico.

(5) That the applicant seeks authority to commingle Blanco Mesaverde and Basin-Dakota production within the well-bore of the above-described well.

(6) That from the Blanco Mesaverde zone, the subject well is capable of low rates of production only.

(7) That from the Basin-Dakota zone, the subject well is capable of low rates of production only.

(8) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(9) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(10) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(11) That in order to allocate the commingled production to each of the commingled zones in the subject well, 73 percent and 64 percent of the commingled gas and oil production, respectively, should be allocated to the Blanco Mesaverde zone, and 27 percent and 36 percent of the commingled gas and oil production, respectively, to the Basin-Dakota zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, El Paso Natural Gas Company, is hereby authorized to commingle Blanco Mesaverde and Basin-Dakota production within the wellbore of the Turner Hughes Well No. 17, located in Unit H of Section 10, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico.

(2) That 73 percent and 64 percent of the commingled gas and oil production, respectively, shall be allocated to the Blanco Mesaverde zone and 27 percent and 36 percent of the commingled gas and oil production, respectively, shall be allocated to the Basin-Dakota zone.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
11 March 1981

EXAMINER HEARING

IN THE MATTER OF:

Application of El Paso Exploration Company for downhole commingling, San Juan County, New Mexico.

CASE 7185

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

David T. Burleson, Esq.
Principal Counsel
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 7185, application of El Paso Exploration Company for downhile commingling, San Juan County, New Mexico.

MR. BURLESON: David Burleson, and we have one witness.

(Witness sworn.)

PAUL W. BURCHELL

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. BURLESON:

Q. Please state your name and where you reside.

A. My name is Paul W. Burchell and I reside in El Paso, Texas.

Q. By whom are you employed and in what capacity?

A. I'm employed by the El Paso Natural Gas Company and I'm a Senior Engineer in the Production Control Department.

MR. BURLESON: Mr. Examiner I'd like

to call to your attention at this time that although we asked that this hearing be set in the name of El Paso Exploration Company, which is a wholly owned subsidiary of El Paso Natural Gas Company, El Paso Natural Gas Company itself should be the applicant in this case. We would like the order to so reflect.

MR. STAMETS: Okay, I don't anticipate that there's any -- I don't see any problem with that, and we just simply want the order to reflect that El Paso Natural Gas Company will be the operator.

MR. BURLESON: Yes, and we amend our application in that respect.

MR. STAMETS: Okay.

MR. BURLESON: To indicate El Paso Natural Gas Company rather than El Paso Exploration Company is the operator, or the applicant.

MR. STAMETS: Okay, we'll accept that amendment and make that change.

Q. As an engineer have you previously testified before this Division or one of its examiners?

A. Yes, I have.

Q. And were your qualifications accepted by the Division at those times?

A. They were, sir.

Q. Are you familiar with this case, Number

7185?

A. Yes, I am.

MR. BURLESON: Mr. Examiner, we ask that the witness' qualifications be accepted.

MR. STAMETS: The witness is considered qualified.

Q. Who is the operator of this well in this case?

A. The El Paso Natural Gas Company is the operator.

Q. What is El Paso Natural Gas Company seeking in its application?

A. We are seeking permission to downhole commingle production of the Blanco Mesaverde Gas Pool with production of the Basin Dakota Gas Pool and to produce this gas through one meter in the Turner Hughes No. 17 Well.

This well is located in Unit H of Section 10, Township 27 North, Range 9 West, San Juan County, New Mexico. This well presently produces from both of these formations as a dual completed well, and El Paso proposes that the allocation of gas to each formation be divided in a manner that will be explained later on in my testimony.

Q Has it been determined that there is communication between the two formations which are producing

in the well that you just mentioned?

A. Yes, the 1980 annual packer leakage test indicated communication between the two producing zones in the dually completed well.

Q. Is there any indication from any tests which have been run as to where this leak may exist?

A. In the -- yes, in a way. The temperature survey was run in the well and it showed a possible leak on the Dakota 2-3/8ths inch tubing.

Q. It could also be a packer leak, as well, is that --

A. And it could --

Q. -- correct?

A. It could be where it's very, very close to one or the other, or both.

Q. But the indication is that the leak occurred at a depth which would embrace --

A. Both.

Q. -- the tubing and the packer, so you're not sure which one, but you think it's one or the other?

A. Yes, sir, it will be shown on an exhibit here.

Q. Why is El Paso asking to commingle the production from these two zones?

A. Downhole commingling is considered by El Paso to be the most conservative and economic method to undertake, mainly due to the very low productivity of both zones, and of course, the high cost of repairing the suspected leak in the well.

Q. Do you have an exhibit which indicates the equipment that is presently in the well?

A. Yes, sir.

Q. Would you please explain what the exhibit shows?

A. The exhibit is a diagrammatic sketch of the equipment, which has been marked as El Paso Natural Gas Company's Exhibit Number One.

The exhibit shows our two strings of tubing installed in the Turner Hughes No. 17 Well. It also shows that there's a Baker Model "F" production packer, and it's set at 4665 feet and the well is perforated in the Mesaverde from 4441 feet to 4609 feet. These are total gross perfs, and that's above the packer. And the Dakota is perforated from 6568 feet to 6734 feet, gross, and that's perforated below the packer.

The Mesaverde side of the well produces through a 1-1/4 inch tubing and that tubing is set at 4620 feet, while the Dakota is produced through 2-3/8ths tubing.

And that tubing is set at6707 feet. As noted on the lefthand side of the schematic diagram, a temperature survey indicated cooling, it started cooling at 4500 feet and it showed this anomaly all the way down to 5000 feet.

So we really don't know if there is a leak in the packer or a leak in the Dakota 2-3/8ths inch tubing, or maybe if they're both at fault.

Q. Have you prepared an exhibit which indicates some production history from this well?

A. Yes, I have.

Q. And that would be Exhibit Number Two?

A. Yes, sir.

Q. Would you please explain what that exhibit indicates?

A. The El Paso Natural Gas Company's Exhibit Number Two shows the Basin Dakota and the Blanco Mesaverde production decline curves from 1970 to 1980. The curves are, the plots on the curves are based on yearly daily average, which is in Mcf of gas per day, and that side of the graph is shown on the lefthand side with the yearly daily average production.

And the three curves that are shown can be distinguished, first they're noted as such, the Basin Dakota curve on the bottom has circular -- or excuse me,

square points, plot points. The, more or less, the middle curve which is shown as the Blanco Mesaverde, has circular points on the -- on the curve, and the top graph, or plot, is in triangles, and it shows the percent Mesaverde, and the percent Mesaverde can be read on the top righthand side of the plot.

Q. Have you prepared another exhibit indicating the monthly production figures for the two zones for the period April, 1979, through December, 1980?

A. Yes. I'd like to point out one thing to the Examiner before going to Exhibit Number Three. I'm sorry, but first of all, both the Mesaverde and the Dakota side of the well were declining at a normal rate until the year 1979, and as you can see, their curves drastically went in different directions, which indicated that sometime after 1979, or sometime during 1980, the leak had occurred in the well.

The percent of the Mesaverde that has been producing from 1970 to 1979, so from 1970 through 1979, the Mesaverde averaged approximately 73 percent of that well's total production.

And in calling the Examiner's attention to Exhibit Number Three, it is the same type of information only on a more detailed manner. I've shown it, the time period, in months rather than years to help point out the --

that leak which occurred in the well. The -- seemed like the well was producing under normal conditions in January of 1980 and then sometime during February the leak occurred and the well characteristic as some Mesaverde gas being theived by the Dakota side of the well.

El Paso then ran a packer leakage test in March of 1980 and it certainly verified the erratic behavior of the well, that a leak had taken place.

Q. Indicated there was communication between the Mesaverde --

A. There was communication.

Q. -- and the Dakota?

A. Definitely.

The twelve months -- the twelve -- the months that were prior to -- the twelve months for all of 1979, which is prior to the leak, the Mesaverde averaged 162 Mcf of gas per day and the Dakota made 69 Mcf of gas per day, and this was a combined average volume of 231 Mcf of gas per day being produced from the well.

Q. There's one other thing that we might mention here. Was there any differential in the line pressure against which these two zones were producing during the period covered by Exhibit Number Three?

A. Yeah, I might point out to the Division

that the well's total combined production of 231 Mcf of gas per day for all of 1979, the total volume decreased after the well experienced its communication between the two zones, and it is felt that this total decrease in production results from the fact that coincidentally the line pressure had gone from 225 - 30 pounds and around March it went up -- March or April it went up to approximately 255. So that would account for some decrease, and I believe that the fact that the well is leaking fluids from probably the deeper zone, in adding to the annular side of its -- of the well, and probably there is not enough gas energy on the Mesaverde side to unload the liquids as efficiently.

So because of these two reasons I think the well has decreased in volume.

Q. Now would the ability of the well to unload the liquids in the Mesaverde, which you mentioned a moment ago, be improved by what we're proposing in this cause?

A. Yes, this is one of the main -- main reasons that we are looking toward commingling that would have a more efficient method of production. We would have a larger volume of gas going through one tubing instead of two tubings and thus the velocity would help increase the production, as we now see it.

Q. The velocity would be greater and consequently --

A. Right.

Q. -- the well's ability to remove liquids would be enhanced --

A. Right.

Q. -- is that correct?

A. Yes, sir.

Q. What conclusions do you draw from an examination of your exhibits Two and Three?

A. In my opinion the flow rates for the Dakota and the Mesaverde are small and I should point out that both the Mesaverde and the Dakota formations are classified and prorated as marginal.

Q. Do you have any information regarding pressures and fluid characteristics with respect to the two zones that are completed in this well?

A. Yes, sir.

Q. The well produces about ten barrels of water per month from both sides of the well. That's ten barrels of water per month.

And with regards to the oil, during 1979 the Mesaverde averaged 21.7 barrels of oil per month and the Dakota averaged 12.3 barrels of oil per month. Thus

the Mesaverde made 64 percent of the total oil production during 1979.

Now with regard to pressures, based on the extrapolation of State tests, the Mesaverde side of the well has a shut-in tubing pressure of 358 psia as of October the 1st, 1980. The corresponding bottom hole pressure is estimated to be 430 psia.

Now also based on extrapolation of State tests the Dakota shut-in tubing pressure was 520 psia with a corresponding bottom hole pressure estimated at 659 pounds per square inch absolute.

Q. Now you mentioned that you have extrapolated State pressure tests for past periods to arrive at the inferred pressures at the present time.

A. Yes, sir.

Q. At what times did you have -- what was the last period during which you had actual measured pressures from which you could make your extraploation for these two zones?

A. Well, prior to the leak we had it on the -- we test the well every other year in the formations; one formation one year and then the next formation, and so on, and I think it was in 1978 the Mesaverde side of the well was tested and in 1979 the Dakota side of the well was

tested, and then in 1980 we also had a test on the Mesaverde side again.

Q. But that may not have been --

A. It was the last.

Q. -- representative --

A. No.

Q. -- since there was communication at that time.

A. No. Coincidentally, it did fit the extrapolation on the plot. That was just -- we wouldn't have used it if it didn't fit.

Q. And then I assume that you had measured pressures for each two-year period for each of the individual zones prior to these --

A. All the way to --

Q. -- two periods that you mentioned.

A. Yes, sir.

Q. In other words, during 1977 you had a pressure test for the Dakota.

A. Dakota, yes, sir, and so forth.

Q. And so on? '76 for the Mesaverde and so forth?

A. Right.

Q. Do you believe that the fluid and pres-

sure characteristics would be compatible should commingling be approved in this application today?

A. Yes, sir, because of a small pressure differential and the presence of small amounts of liquids, I do not expect any migration of fluids or gas and particularly if the well is continuously produced. I'd point out here that the ratio of bottom hole pressures is 1.5 to 1.

Q. What advantages would inhere in permitting commingling?

A. There are really two main advantages. First it is believed that by commingling this volume of gas, which I indicated was 231 Mcf per day total, it will aid in lifting the liquids and neither formation would have to be prematurely abandoned.

As of October the 1st, 1980, it is estimated that the Mesaverde has around 1,366 MMCF of remaining gas reserves, and the Dakota has around 492 MMCF of remaining reserves.

And I believe these reserves can be recovered through commingling. It should be noted that the Mesaverde reserves present 73 percent of the well's total remaining gas reserves.

Q. Excuse me, now you're talking about gas? Yeah, you're speaking of gas reserves and not -- not oil re-

serves at this point?

A. No, this is just gas, based on these remaining reserves. So 73 percent of the well's total remaining gas reserves belongs to the Mesaverde, and this is, by the way, coincidental with the well's physical production percentage, which I indicated earlier, 73 percent for the years 1970 through 1979.

And then, of course, besides the efficiency and the production, the savings in the -- in not repairing the indicated leak would be considerable. To repair and dually complete the existing well would cost $33,000; however, it will only cost about $20,000 to downhole commingle the Mesaverde and the Dakota.

And I would like to point out that even if El Paso were to spend the money, the additional monies and repair the well and dually complete it, that there is really no guarantee that somewhere down -- down in the road or in the near future, that it wouldn't start leaking again. We'd still have the same problem.

Q. In other words, our experience has been that given a fairly lengthly period of time it could be anticipated that there could be a packer leak or another leak.

A. Right.

Q. Between the two zones.

A. It could happen.

Q. Do you propose a formula by which the gas and condensate production would be apportioned to each of these two zones?

A. Yes, and based on my prior testimony related to the average production of oil and the well's remaining reserves, gas reserves, it is recommended that 73 percent of the well's gas production and 64 percent of the oil production be attributed to the Blanco Mesaverde Pool, and then of course, the remaining gas and oil production be allocated to the Basin Dakota side of the well.

Q. Would you indicate what the ownership is as between these two zones, the Mesaverde and the Dakota?

A. Yes, sir. El Paso Natural Gas Company owns 93.75 percent working interest in both formations and a Mr. Snyder Vogel owns 6.25 percent working interest in both formations. There is one Federal lease, USA-SFO 79937, which covers the entire 320 acres dedicated to this well. There is a 25 percent overriding royalty interest, which is common in both zones. We have contacted Mr. Vogel and all of the overriding royalty interest people and they have approved of our proposed commingling of this well.

Q. So in other words, no matter to which

zone the production is attributed, it will be distributed the same way as it's currently being distributed.

A. Yes, sir, yeah, total money is right.

Q. In your opinion would the granting of this application protect correlative rights and prevent waste?

A. Yes, sir.

Q. Do you have anything further to add in this case?

A. No, I do not.

Q. Were Exhibits One, Two, and Three prepared by you or under your supervision?

A. Yes, they were.

MR. BURLESON: Mr. Examiner, we ask that Exhibits One, Two, and Three be accepted into evidence at this time, and that concludes our direct examination.

MR. STAMETS: The exhibits will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Burchell, you've said that the water production was ten barrels per month from both sides. Do you mean the total was twenty or the combined stream is ten?

A. The combined stream is ten. I'm sorry, and that was per month.

Q. All right. On Exhibit Number Three, the general trend seems to show that the well is not able to produce the commingled stream for whatever reason as well as it was able to produce the zones separately, except for the month of March, and during the month of March it was able to achieve a production that was higher --

A. Right.

Q. - -than the average before. What conditions led to that high rate of production in March?

A. Unless the well started -- I do remember that, like during the month of February when it did occur, and the well indicated that there was some liquids building up enabling the well to flow, because from the number of days during that month that the well was open, well open but no flow, it was several more days than actually what we had measured for gas flowing, so I assume during that particular month that the liquids just prevented the well from unloading and all of a sudden the next month they -- in the month of March they did unload, and caused maybe a higher -- higher percentage of gas being -- or a higher amount of gas being produced, but then just at that time, starting in April, the well -- both wells produced into a common pipeline, and like

I said, it went from 230 pounds per square inch and it increased, the pipeline increased about 255. That's why I think it just tailed off at a lower rate.

Q When you recomplete this well what will you do, run a single string of tubing to the Dakota zone?

A We would propose to run a single 2-3/8ths inch tubing down to the bottom of perfs of the Dakota formation.

MR. STAMETS: Any other questions of the witness? He may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7185 heard by me on 3-11 1981.

Richard L. Stamets Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
11 March 1981

EXAMINER HEARING

IN THE MATTER OF:

Application of El Paso Exploration Company for downhole commingling, San Juan County, New Mexico.

CASE 7185

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

David T. Burleson, Esq.
Principal Counsel
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 7185, application of El Paso Exploration Company for downhile commingling, San Juan County, New Mexico.

MR. BURLESON: David Burleson, and we have one witness.

(Witness sworn.)

PAUL W. BURCHELL

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. BURLESON:

Q. Please state your name and where you reside.

A. My name is Paul W. Burchell and I reside in El Paso, Texas.

Q. By whom are you employed and in what capacity?

A. I'm employed by the El Paso Natural Gas Company and I'm a Senior Engineer in the Production Control Department.

MR. BURLESON: Mr. Examiner I'd like

to call to your attention at this time that although we asked that this hearing be set in the name of El Paso Exploration Company, which is a wholly owned subsidiary of El Paso Natural Gas Company, El Paso Natural Gas Company itself should be the applicant in this case. We would like the order to so reflect.

MR. STAMETS: Okay, I don't anticipate that there's any -- I don't see any problem with that and we just simply want the order to reflect that El Paso Natural Gas Company will be the operator.

MR. BURLESON: Yes, and we amend our application in that respect.

MR. STAMETS: Okay.

MR. BURLESON: To indicate El Paso Natural Gas Company rather than El Paso Exploration Company is the operator, or the applicant.

MR. STAMETS: Okay, we'll accept that amendment and make that change.

Q. As an engineer have you previously testified before this Division or one of its examiners?

A. Yes, I have.

Q. And were your qualifications accepted by the Division at those times?

A. They were, sir.

Q. Are you familiar with this case Number

7185?

A. Yes, I am.

MR. BURLESON: Mr. Examiner, we ask that the witness' qualifications be accepted.

MR. STAMETS: The witness is considered qualified.

Q. Who is the operator of this well in this case?

A. The El Paso Natural Gas Company is the operator.

Q. What is El Paso Natural Gas Company seeking in its application?

A. We are seeking permission to downhole commingle production of the Blanco Mesaverde Gas Pool with production of the Basin Dakota Gas Pool and to produce this gas through one meter in the Turner Hughes No. 17 Well.

This well is located in Unit H of Section 10, Township 27 North, Range 9 West, San Juan County, New Mexico. This well presently produces from both of these formations as a dual completed well, and El Paso proposes that the allocation of gas to each formation be divided in a manner that will be explained later on in my testimony.

Q. Has it been determined that there is communication between the two formations which are producing

in the well that you just mentioned?

A. Yes, the 1980 annual packer leakage test indicated communication between the two producing zones in the dually completed well.

Q. Is there any indication from any tests which have been run as to where this leak may exist?

A. In the -- yes, in a way. The temperature survey was run in the well and it showed a possible leak on the Dakota 2-3/8ths inch tubing.

Q. It could also be a packer leak as well, is that --

A. And it could --

Q. -- correct?

A. It could be where it's very, very close to one or the other, or both.

Q. But the indication is that the leak occurred at a depth which would embrace --

A. Both.

Q. -- the tubing and the packer, so you're not sure which one, but you think it's one or the other?

A. Yes, sir, it will be shown on an exhibit here.

Q. Why is El Paso asking to commingle the production from these two zones?

A. Downhole commingling is considered by El Paso to be the most conservative and economic method to undertake, mainly due to the very low productivity of both zones, and of course, the high cost of repairing the suspected leak in the well.

Q. Do you have an exhibit which indicates the equipment that is presently in the well?

A. Yes, sir.

Q. Would you please explain what the exhibit shows?

A. The exhibit is a diagrammatic sketch of the equipment, which has been marked as El Paso Natural Gas Company's Exhibit Number One.

The exhibit shows our two strings of tubing installed in the Turner Hughes No. 17 Well. It also shows that there's a Baker Model "F" production packer, and it's set at 4665 feet and the well is perforated in the Mesaverde from 4441 feet to 4608 feet. These are total gross perfs, and that's above the packer. And the Dakota is perforated from 6568 feet to 6734 feet gross and that's perforated below the packer.

The Mesaverde side of the well produces through a 1-1/4 inch tubing and that tubing is set at 4620 feet, while the Dakota is produced through 2-3/8ths tubing.

And that tubing is set at6707 feet. As noted on the lefthand side of the schematic diagram, a temperature survey indicated cooling, it started cooling at 4500 feet and it showed this anomaly all the way down to 5000 feet.

So we really don't know if there is a leak in the packer or a leak in the Dakota 2-3/8ths inch tubing, or maybe if they're both at fault.

Q. Have you prepared an exhibit which indicates some production history from this well?

A. Yes, I have.

Q. And that would be Exhibit Number Two?

A. Yes, sir.

Q. Would you please explain what that exhibit indicates?

A. The El Paso Natural Gas Company's Exhibit Number Two shows the Basin Dakota and the Blanco Mesaverde production decline curves from 1970 to 1980. The curves are, the plots on the curves are based on yearly daily average, which is in Mcf of gas per day, and that side of the graph is shown on the lefthand side with the yearly daily average production.

And the three curves that are shown can be distinguished, first they're noted as such, the Basin Dakota curve on the bottom has circular -- or excuse me.

square points, plot points. The, more or less, the middle curve which is shown as the Blanco Mesaverde, has circular points on the -- on the curve, and the top graph, or plot, is in triangles, and it shows the percent Mesaverde, and the percent Mesaverde can be read on the top righthand side of the plot.

Q. Have you prepared another exhibit indicating the monthly production figures for the two zones for the period April, 1979, through December, 1980?

A. Yes. I'd like to point out one thing to the Examiner before going to Exhibit Number Three. I'm sorry but first of all, both the Mesaverde and the Dakota side of the well were declining at a normal rate until the year 1979, and as you can see, their curves drastically went in different directions, which indicated that sometime after 1979, or sometime during 1980, the leak had occurred in the well.

The percent of the Mesaverde that has been producing from 1970 to 1979, so from 1970 through 1979, the Mesaverde averaged approximately 73 percent of that well's total production.

And in calling the Examiner's attention to Exhibit Number Three, it is the same type of information only on a more detailed manner. I've shown it, the time period, in months rather than years to help point out the --

that leak which occurred in the well. The -- seemed like the well was producing under normal conditions in January of 1980 and then sometime during February the leak occurred and the well characteristic as some Mesaverde gas being theived by the Dakota side of the well.

El Paso then ran a packer leakage test in March of 1980 and it certainly verified the erratic behavior of the well that a leak had taken place.

Q Indicated there was communication between the Mesaverde --

A There was communication.

Q -- and the Dakota?

A Definitely.

The twelve months - the twelve -- the months that were prior to -- the twelve months for all of 1979, which is prior to the leak, the Mesaverde averaged 162 Mcf of gas per day and the Dakota made 69 Mcf of gas per day, and this was a combined average volume of 231 Mcf of gas per day being produced from the well.

Q There's one other thing that we might mention here. Was there any differential in the line pressure against which these two zones were producing during the period covered by Exhibit Number Three?

A Yeah, I might point out to the Division

that the well's total combined production of 231 Mcf of gas per day for all of 1979, the total volume decreased after the well experienced its communication between the two zones, and it is felt that this total decrease in production results from the fact that coincidentally the line pressure had gone from 225 - 30 pounds and around March it went up -- March or April it went up to approximately 255. So that would account for some decrease, and I believe that the fact that the well is leaking fluids from probably the deeper zone, in adding to the annular side of its -- of the well, and probably there is not enough gas energy on the Mesaverde side to unload the liquids as efficiently.

So because of these two reasons I think the well has decreased in volume.

Q. Now would the ability of the well to unload the liquids in the Mesaverde, which you mentioned a moment ago, be improved by what we're proposing in this cause?

A. Yes, this is one of the main -- main reasons that we are looking toward commingling that would have a more efficient method of production. We would have a larger volume of gas going through one tubing instead of two tubings and thus the velocity would help increase the production, as we now see it.

Q. The velocity would be greater and consequently --

A. Right.

Q. -- the well's ability to remove liquids would be enhanced --

A. Right.

Q. -- is that correct?

A. Yes, sir.

Q. What conclusions do you draw from an examination of your exhibits Two and Three?

A. In my opinion the flow rates for the Dakota and the Mesaverde are small and I should point out that both the Mesaverde and the Dakota formations are classified and prorated as marginal.

Q. Do you have any information regarding pressures and fluid characteristics with respect to the two zones that are completed in this well?

A. Yes, sir.

Q. The well produces about ten barrels of water per month from both sides of the well. That's ten barrels of water per month.

And with regards to the oil, during 1979 the Mesaverde averaged 21.7 barrels of oil per month and the Dakota averaged 12.3 barrels of oil per month. Thus

the Mesaverde made 64 percent of the total oil production during 1979.

Now with regard to pressures, based on the extrapolation of State tests, the Mesaverde side of the well has a shut-in tubing pressure of 358 psia as of October the 1st, 1980. The corresponding bottom hole pressure is estimated to be 430 psia.

Now also based on extrapolation of State tests the Dakota shut-in tubing pressure was 520 psia with a corresponding bottom hole pressure estimated at 659 pounds per square inch absolute.

Q Now you mentioned that you have extrapolated State pressure tests for past periods to arrive at the inferred pressures at the present time.

A Yes, sir.

Q At what times did you have -- what was the last period during which you had actual measured pressures from which you could make your extraploation for these two zones?

A Well, prior to the leak we had it on the -- we test the well every other year in the formations; one formation one year and then the next formation, and so on, and I think it was in 1978 the Mesaverde side of the well was tested and in 1979 the Dakota side of the well was

tested, and then in 1980 we also had a test on the Mesaverde side again.

Q But that may not have been --

A It was the last.

Q -- representative --

A No.

Q -- since there was communication at that time.

A No. Coincidentally, it did fit the extrapolation on the plot. That was just -- we wouldn't have used it if it didn't fit.

Q And then I assume that you had measured pressures for each two-year period for each of the individual zones prior to these --

A All the way to --

Q -- two periods that you mentioned.

A Yes, sir.

Q In other words, during 1977 you had a pressure test for the Dakota.

A Dakota, yes, sir, and so forth.

Q And so on? '76 for the Mesaverde and so forth?

A Right.

Q Do you believe that the fluid and pres-

sure characteristics would be compatible should commingling be approved in this application today?

A Yes, sir, because of a small pressure differential and the presence of small amounts of liquids, I do not expect any migration of fluids or gas and particularly if the well is continuously produced. I'd point out here that the ratio of bottom hole pressures is 1.5 to 1.

Q What advantages would inhere in permitting commingling?

A There are really two main advantages. First it is believed that by commingling this volume of gas, which I indicated was 231 Mcf per day total, it will aid in lifting the liquids and neither formation would have to be prematurely abandoned.

As of October the 1st, 1980, it is estimated that the Mesaverde has around 1,366 MMCF of remaining gas reserves, and the Dakota has around 492 MMCF of remaining reserves.

And I believe these reserves can be recovered through commingling. It should be noted that the Mesaverde reserves present 73 percent of the well's total remaining gas reserves.

Q Excuse me, now you're talking about gas? Yeah, you're speaking of gas reserves and not -- not oil re-

serves at this point?

A. No, this is just gas, based on these remaining reserves. So 73 percent of the well's total remaining gas reserves belongs to the Mesaverde, and this is, by the way, coincidental with the well's physical production percentage, which I indicated earlier, 73 percent for the years 1970 through 1979.

And then, of course, besides the efficiency and the production, the savings in the -- in not repairing the indicated leak would be considerable. To repair and dually complete the existing well would cost $33,000; however, it will only cost about $20,000 to downhole commingle the Mesaverde and the Dakota.

And I would like to point out that even if El Paso were to spend the money, the additional monies and repair the well and dually complete it, that there is really no guarantee that somewhere down -- down in the road or in the near future, that it wouldn't start leaking again. We'd still have the same problem.

Q. In other words, our experience has been that given a fairly lengthly period of time it could be anticipated that there could be a packer leak or another leak.

A. Right.

Q. Between the two zones.

A. It could happen.

Q. Do you propose a formula by which the gas and condensate production would be apportioned to each of these two zones?

A. Yes, and based on my prior testimony related to the average production of oil and the well's remaining reserves, gas reserves, it is recommended that 73 percent of the well's gas production and 64 percent of the oil production be attributed to the Blanco Mesaverde Pool, and then of course, the remaining gas and oil production be allocated to the Basin Dakota side of the well.

Q. Would you indicate what the ownership is as between these two zones, the Mesaverde and the Dakota?

A. Yes, sir. El Paso Natural Gas Company owns 93.75 percent working interest in both formations and a Mr. Snyder Vogel owns 6.25 percent working interest in both formations. There is one Federal lease, USA-SFO 79937 which covers the entire 320 acres dedicated to this well. There is a 25 percent overriding royalty interest, which is common in both zones. We have contacted Mr. Vogel and all of the overriding royalty interest people and they have approved of our proposed commingling of this well.

Q. So in other words, no matter to which

zone the production is attributed, it will be distributed the same way as it's currently being distributed.

A. Yes, sir, yeah, total money is right.

Q. In your opinion would the granting of this application protect correlative rights and prevent waste?

A. Yes, sir.

Q. Do you have anything further to add in this case?

A. No, I do not.

Q. Were Exhibits One, Two, and Three prepared by you or under your supervision?

A. Yes, they were.

MR. BURLESON: Mr. Examiner, we ask that Exhibits One, Two, and Three be accepted into evidence at this time, and that concludes our direct examination.

MR. STAMETS: The exhibits will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Burchell, you've said that the water production was ten barrels per month from both sides. Do you mean the total was twenty or the combined stream is ten?

A. The combined stream is ten. I'm sorry, and that was per month.

Q. All right. On Exhibit Number Three, the general trend seems to show that the well is not able to produce the commingled stream for whatever reason as well as it was able to produce the zones separately, except for the month of March, and during the month of March it was able to achieve a production that was higher --

A. Right.

Q. -- than the average before. What conditions led to that high rate of production in March?

A. Unless the well started -- I do remember that, like during the month of February when it did occur, and the well indicated that there was some liquids building up enabling the well to flow, because from the number of days during that month that the well was open, well open but no flow, it was several more days than actually what we had measured for gas flowing, so I assume during that particular month that the liquids just prevented the well from unloading and all of a sudden the next month they -- in the month of March they did unload, and caused maybe a higher -- higher percentage of gas being -- or a higher amount of gas being produced, but then just at that time, starting in April, the well -- both wells produced into a common pipeline, and like

I said, it went from 230 pounds per square inch and it increased, the pipeline increased about 255. That's why I think it just tailed off at a lower rate.

Q When you recomplete this well what will you do, run a single string of tubing to the Dakota zone?

A We would propose to run a single 2-3/8ths inch tubing down to the bottom of perfs of the Dakota formation.

MR. STAMETS: Any other questions of the witness? He may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

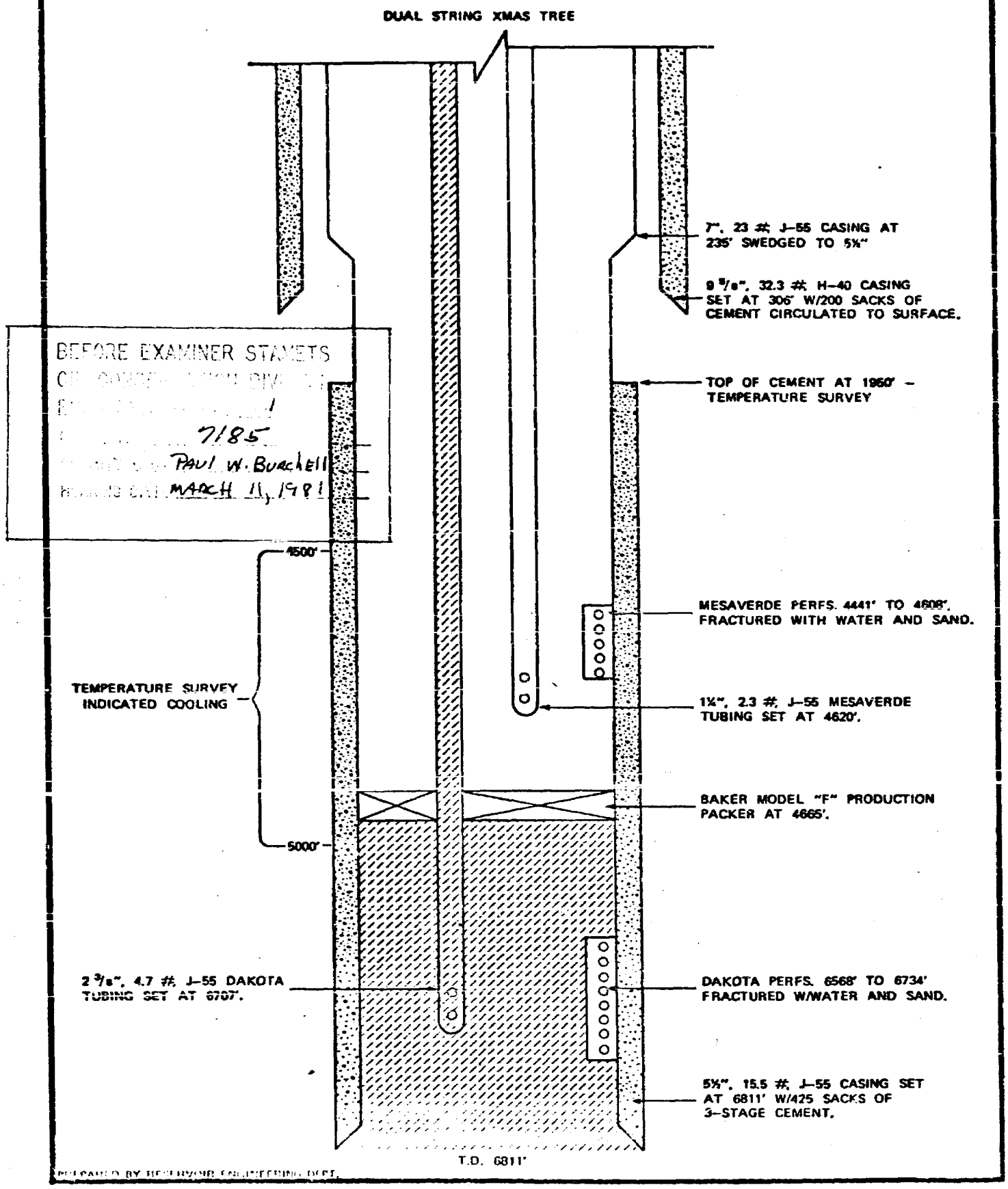
Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a co[illegible] the [illegible] in heard by [illegible] 19___.

_______________, Examiner
Oil Co[illegible]rvation Division

EXHIBIT NO. 1

SCHEMATIC DIAGRAM OF DUALLY-COMPLETED WELL
EL PASO NATURAL GAS CO. TURNER HUGHES No. 17 WELL
UNIT H OF SEC. 10, T-27-N, R-9-W
SAN JUAN COUNTY, NEW MEXICO



EL PASO NATURAL GAS COMPANY

EXHIBIT No. 2

PRODUCTION DECLINE CURVE
TURNER HUGHES No. 17 WELL
UNIT H OF SEC. 10, T-27-N, R-9-W
SAN JUAN COUNTY, NEW MEXICO

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 3
CASE NO. 7185
SUBMITTED BY: PAUL W. BUCHELL
HEARING DATE: MARCH 11, 1981

% - MESAVERDE

BLANCO - MESAVERDE

BASIN - DAKOTA

YEARLY DAILY AVERAGE - MCFPD

% OF TOTAL PRODUCTION

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60

100% 90% 80% 70% 60% 50% 40%

1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980

YEAR

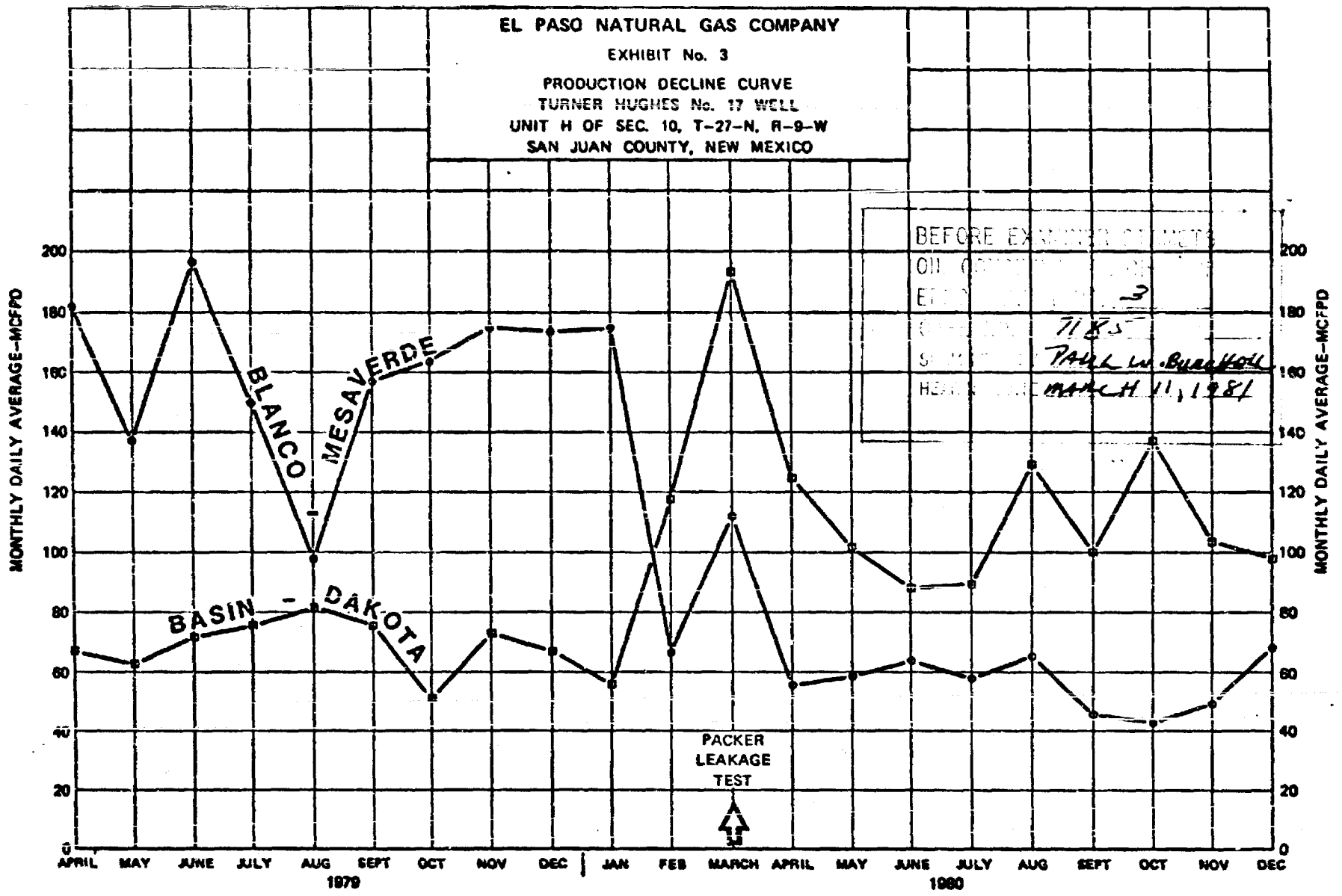
PREPARED BY RESERVOIR ENGINEERING DEPT.

EL PASO NATURAL GAS COMPANY

EXHIBIT No. 3

PRODUCTION DECLINE CURVE
TURNER HUGHES No. 17 WELL
UNIT H OF SEC. 10, T-27-N, R-9-W
SAN JUAN COUNTY, NEW MEXICO

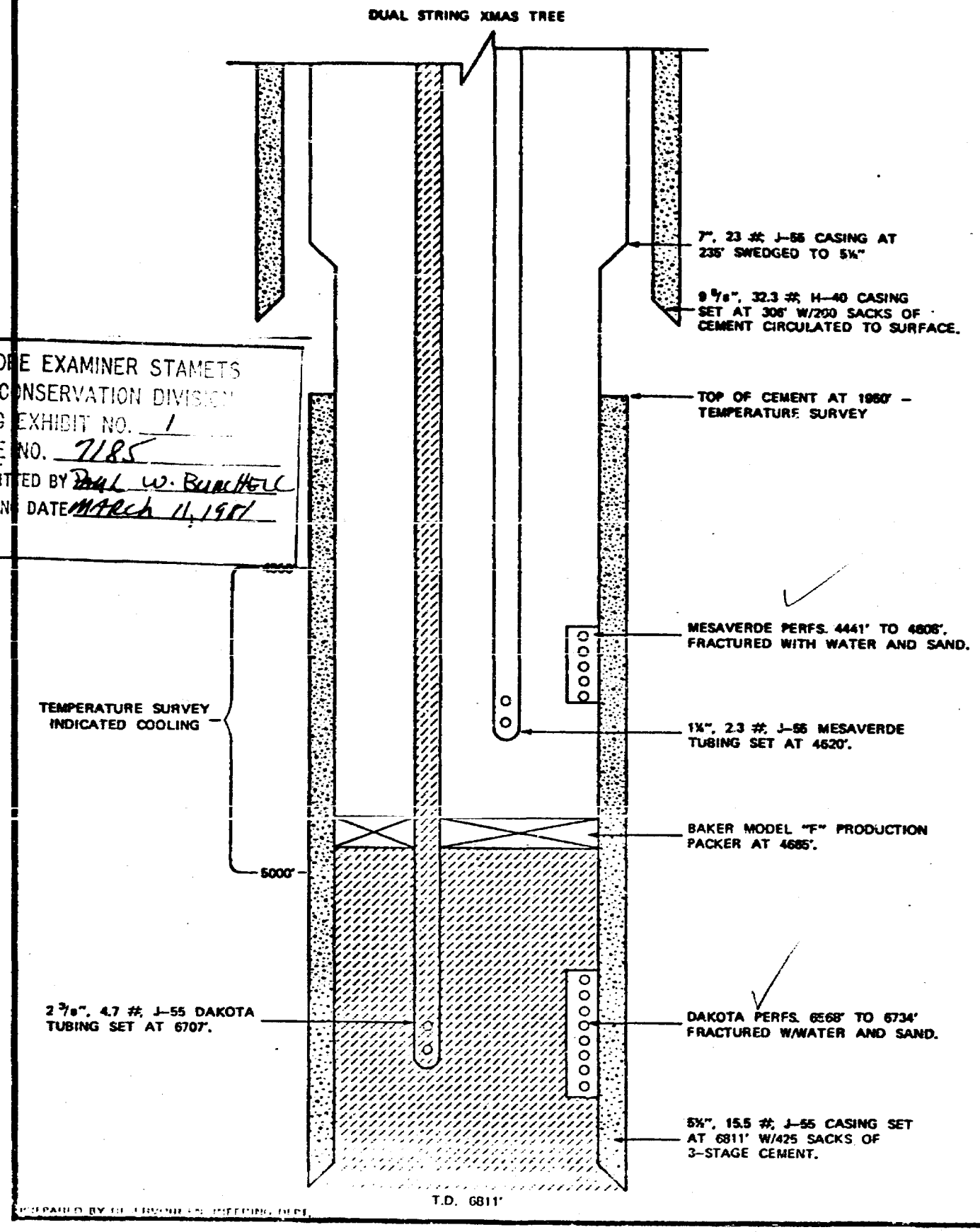
BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EL PASO EXHIBIT NO. 3
CASE NO. 7145
SUBMITTED BY: Paul W. Burkhalter
HEARING DATE: MARCH 11, 1981



PREPARED BY RESERVOIR ENGINEERING DEPT.

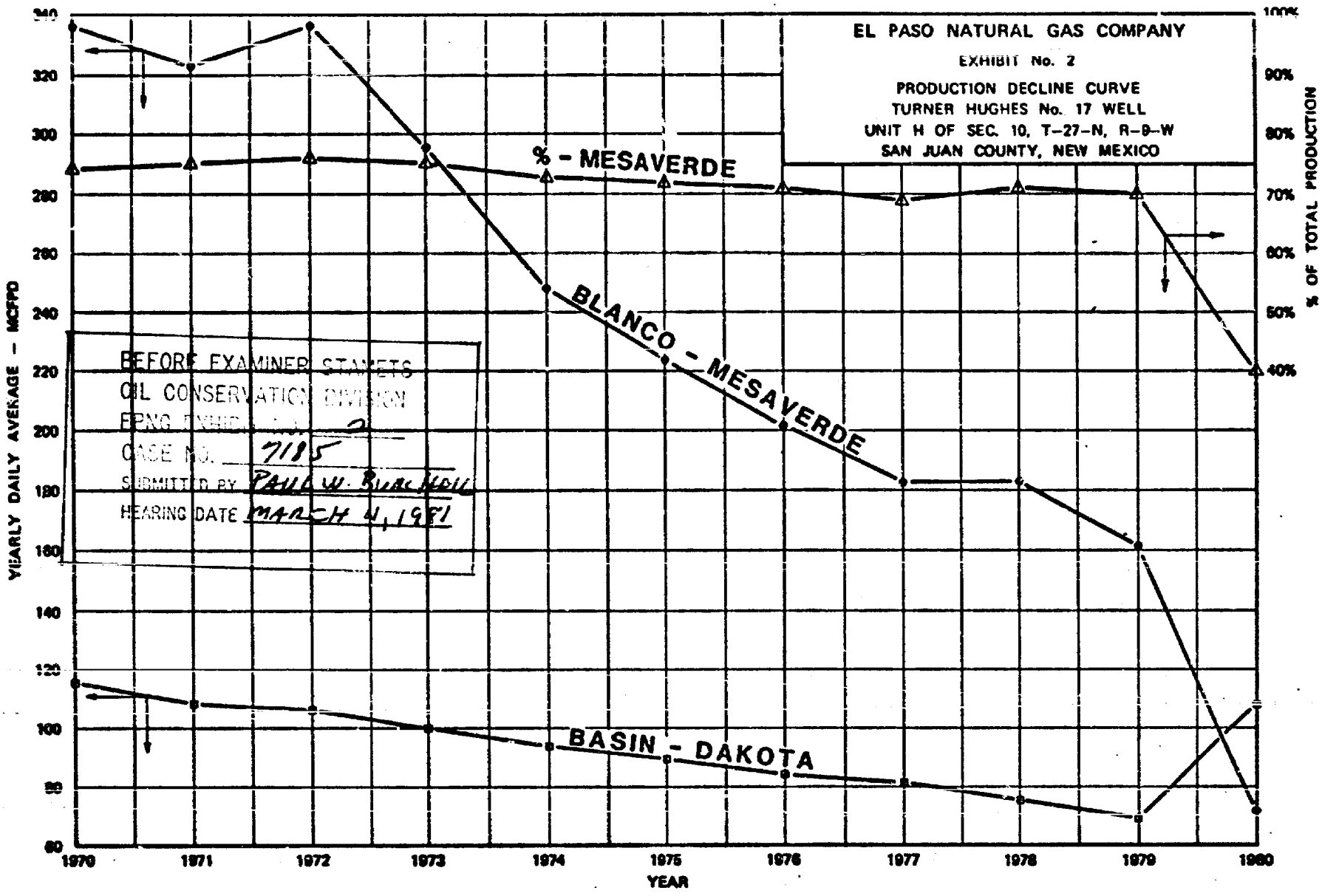
EXHIBIT NO. 1

SCHEMATIC DIAGRAM OF DUALLY-COMPLETED WELL
EL PASO NATURAL GAS CO. TURNER HUGHES No. 17 WELL
UNIT H OF SEC. 10, T-27-N, R-9-W
SAN JUAN COUNTY, NEW MEXICO



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EPNG EXHIBIT NO. 1
CASE NO. 7185
SUBMITTED BY Paul W. Burchell
HEARING DATE March 14, 1961

PREPARED BY EL PASO NATURAL GAS CO.



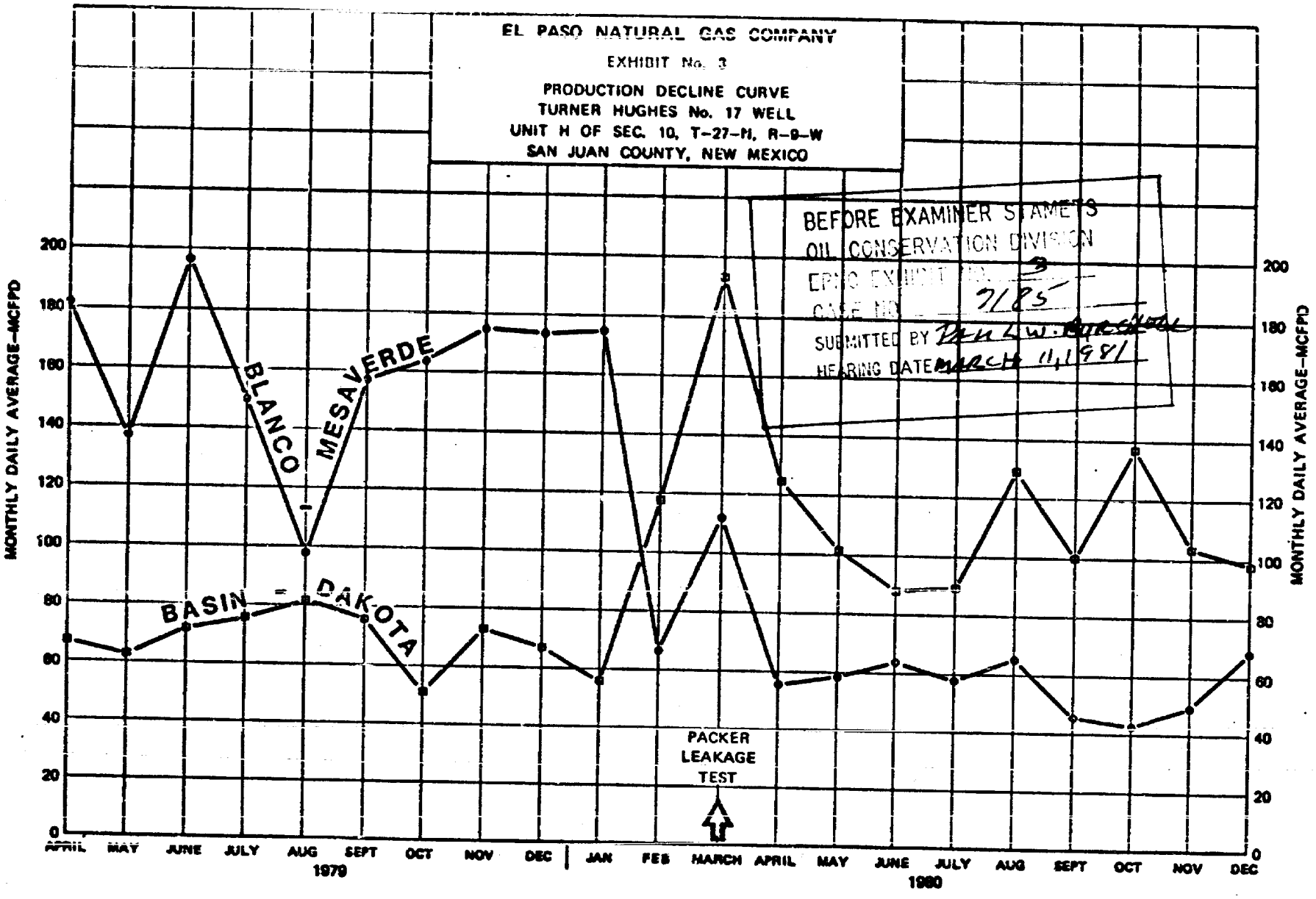
PREPARED BY RESERVOIR ENGINEERING DEPT.

EL PASO NATURAL GAS COMPANY

EXHIBIT No. 3

PRODUCTION DECLINE CURVE
TURNER HUGHES No. 17 WELL
UNIT H OF SEC. 10, T-27-N, R-9-W
SAN JUAN COUNTY, NEW MEXICO

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EPNG EXHIBIT NO. 3
CASE NO. 7185
SUBMITTED BY Paul W. Eaton
HEARING DATE MARCH 11, 1981



PREPARED BY RESERVOIR ENGINEERING DEPT.

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March 11, 1981

New Mexico Energy and
Minerals Department
Oil Conservation Division
Land Office Building
Santa Fe, New Mexico 87503

Re: N.M.O.C.D. Case No. 7185; Application of El Paso Exploration Company for Downhole Commingling, San Juan County, New Mexico

Gentlemen:

Please be advised that David T. Burleson of the office of General Counsel of El Paso Natural Gas Company, El Paso, Texas, is associated with our firm for the presentation of evidence and argument in the above-referenced case.

Sincerely,

Owen M. Lopez

OML:to

CASE 7185: Application of El Paso Exploration Company for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blanco Mesaverde and Basin-Dakota production in the wellbore of its Turner Hughes Well No. 17 located in Unit H of Section 10, Township 27 North, Range 9 West.

CASE 7161: (Continued from February 25, 1981, Examiner Hearing)

Application of John Yuronka for four compulsory poolings, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Langlie Mattix Pool underlying the four 40-acre proration units comprising the SW/4 of Section 31, Township 22 South, Range 37 East, to be dedicated to wells to be drilled at standard locations thereon. Also to be considered will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the wells, and a charge for risk involved in drilling said wells.

CASE 7164: (Continued from February 25, 1981, Examiner Hearing)

Application of ARCO Oil and Gas Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Devonian and Ellenburger formations, Custer Field, underlying the N/2 of Section 6, Township 25 South, Range 37 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7165: (Continued from February 25, 1981, Examiner Hearing)

Application of ARCO Oil and Gas Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Langley-Ellenburger Pool underlying the N/2 of Section 33, Township 22 South, Range 36 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7175: (Continued from February 25, 1981, Examiner Hearing)

Application of Conoco Inc. for compulsory pooling and a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp-Ellenburger formations underlying the S/2 of Section 19, Township 25 South, Range 37 East, to be dedicated to a well to be drilled at a standard location and dually completed in the Devonian and Ellenburger formations. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7186: Application of Sun Texas Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the interval from 10,856 feet to 11,370 feet in its State C Account 1 Well No. 3 in Unit L of Section 2, Township 12 South, Range 33 East, Bagley Siluro-Devonian Pool.

CASE 7187: Application of Blackwood & Nichols Co., Ltd. for four non-standard proration units, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of the following four Fruitland and Pictured Cliffs non-standard gas proration units: a 185.68-acre unit comprising the SW/4 of Section 1, Township 31 North, Range 7 West; a 181.4-acre unit comprising the SE/4 of said Section 1; a 176.68-acre unit comprising the SW/4 of Section 6, Township 31 North, Range 6 West; and a 175.21-acre unit comprising the SE/4 of said Section 6. All units are to be dedicated to wells drilled at standard locations thereon.

CASE 7188: Application of Blackwood & Nichols Co., Ltd. for directional drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to directionally drill its Northeast Blanco Unit Well No. 26-A, the surface location of which is 1160 feet from the North line and 60 feet from the West line of Section 8, Township 30 North, Range 7 West, and directionally drill said well in such a manner as to bottom it in the Mesaverde formation within 100 feet of a point 1190 feet from the North line and 790 feet from the West line of said Section 8, the W/2 of the section to be dedicated to the well; applicant further seeks authority to drill its Northeast Blanco Unit Well No. 32-A, the surface location of which is 1450 feet from the North line and 990 feet from the East line of Section 7, Township 30 North, Range 7 West, and directionally drill said well in such a manner as to bottom it in the Mesaverde formation within 100 feet of a point 1850 feet from the South line and 990 feet from the East line of said Section 7, the E/2 of the section to be dedicated to the well.

El Paso EXPLORATION COMPANY

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE 915-543-2600

February 12, 1981

Case 7185

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

El Paso Exploration Company respectfully requests a hearing be set before the Division or its designated examiner on March 11, 1981, if possible. El Paso seeks approval to downhole comingle production from the Blanco-Mesaverde Gas Pool with production from the Basin-Dakota Gas Pool in its Turner Hughes No. 17 Well. This Well is located in Unit Letter H of Section 10, T27N-R9W, San Juan County, New Mexico.

Very truly yours,

E. R. Manning

E. R. Manning

mm

cc: Messrs. D. C. Adams - Farmington
D. E. Adams
D. T. Burleson
D. N. Canfield
E. J. Coel
J. F. Eichelmann, Jr.
C. E. Matthews
D. R. Read
L. G. Truby

El Paso EXPLORATION COMPANY

P O BOX 1492
EL PASO, TEXAS 79978

PHONE 915-543 2600

February 12, 1981

Case 7105

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

El Paso Exploration Company respectfully requests a hearing be set before the Division or its designated examiner on March 11, 1981, if possible. El Paso seeks approval to downhole comingle production from the Blanco-Mesaverde Gas Pool with production from the Basin-Dakota Gas Pool in its Turner Hughes No. 17 Well. This Well is located in Unit Letter H of Section 10, T27N-R9W, San Juan County, New Mexico.

Very truly yours,

E. R. Manning

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D. R. Read
L. G. Truby

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7185

Order No. R-6634

APPLICATION OF EL PASO EXPLORATION COMPANY

FOR DOWNHOLE COMMINGLING, SAN JUAN COUNTY

~~XXXXXXX~~, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 11, 19 81, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of March, 19 81, the Division Director, 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 Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant requested that the application be amended for purposes of this hearing from El Paso Exploration Company to El Paso Natural Gas Company.

(3) That such amendment should be approved.

(4) That ~~the applicant~~, El Paso Natural Gas Exploration Company, is the owner and operator of the Turner Hughes Well No. 17, located in Unit H of Section 10, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico.

(5) That the applicant seeks authority to commingle Blanco Mesaverde and Basin-Dakota production within the wellbore of the above-described well.

(6) That from the Blanco Mesaverde zone, the subject well is capable of low ~~marginal~~ rates of production only.

(7) That from the Basin-Dakota zone, the subject well is capable of low ~~marginal~~ rates of production only.

(8) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(9) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(10) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(11) That in order to allocate the commingled production to each of the commingled zones in the subject well, 73 percent and 27 percent respectively of the commingled gas and oil production should be allocated to the Blanco Mesaverde zone, and 27 percent and 73 percent respectively of the commingled gas and oil production to the Basin-Dakota zone.

(ALTERNATE)

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, El Paso ~~Exploration~~ Natural Gas Company, is hereby authorized to commingle Blanco Mesaverde and Basin-Dakota production within the wellbore of the Turner Hughes Well No. 17, located in Unit H of Section 10, Township 27 North, Range 9 West, NMPM, San Juan County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

(ALTERNATE)

(2) That 73 percent and 64 percent of the commingled gas and oil production, respectively, shall be allocated to the Blanco Mesaverde zone and 27 percent and 36 percent of the commingled gas and oil production, respectively, shall be allocated to the Basin-Dakota zone.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

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

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