CASE 3252: Application of HARVEY E. YATES & YATES DRLG. CO. FOR NEW GAS POOL AND SPECIAL RULES.

CASE NO.
3252

Application,
Transcripts,
Small Exhibits
ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 19, 1966

EXAMINER HEARING

IN THE MATTER OF: Case No. 3252 being reopened pursuant to the provisions of Order No. R-2917, which order established 640-acre spacing units for the McMillan-Morrow Gas Pool, Eddy County, New Mexico, for a period of one year after first pipeline connection in the pool.

Case No. 3252

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3252.

MR. HATCH: In the matter of Case No. 3252 being reopened pursuant to the provisions of Order No. R-2917, which order established 640-acre spacing units for the McMillan-Morrow Gas Pool, Eddy County, New Mexico, for a period of one year after first pipeline connection in the pool.

MR. LOSEE: A. J. Losee appearing for the Applicants. We have one witness.

(Witness sworn.)

(Whereupon, Exhibits 1 through 3 marked for identification.)

* * *

R A L P H G R A Y, called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOSEE:

Q State your name, please.

A Ralph L. Gray.

Q Where do you live, Mr. Gray?

A Artesia, New Mexico.

Q Your occupation?

A Consulting engineer.

Q Have you previously testified in the original Hearing on this Case 3252?

A Yes, sir, I have.

Q Please refer to what has been marked Exhibit 1 and explain what is shown by the map.

A Exhibit 1 is a map of the area showing the Pecos River Deep Unit. At present there are four gas wells which are included in the McMillan-Morrow Gas Pool and these are indicated on the map. These four wells are the Yates Drilling Company Pecos River Deep Unit Number 1; the Pecos River Deep Unit Number 3; Harvey E. Yates Singer A Number 1, and the Harvey E. Yates Singer C Number 1 Well.

Now, in addition to these four wells which have produced in the pool, Yates Drilling Company drilled their Pecos River Deep Unit Number 4 in Section 11 of Township 20 South, Range 26 East. This well was drilled since the Hearing on this pool over a year ago, and it was completed as a dry hole.

Q There have been no new producing wells since the original Hearing in this case, have there?

A No, sir.

Q Please refer to what has been marked Exhibit 2 entitled Monthly Production and explain what portions may be particularly pertinent to this Hearing.

A Exhibit 2 shows the monthly gas and monthly barrels of oil recovered from each of these four wells up to June the 1st, 1966. Just to summarize the cumulative figures, the

Harvey E. Yates Hondo-Singer A Number 1 Well had recovered 33,555 mcf of gas as of June 1st, 1966. This well is presently shut in in as much as it's unable to produce into the line pressure of the purchaser. The Hondo-Singer C Number 1 Well had recovered 1,615,836 mcf of gas, and this well is presently delivering close to 5,000,000 cubic feet of gas per day.

The Pecos River Deep Unit Number 1 Well has recovered 92,153 mcf of gas and this well is producing slightly more than 300 mcf of gas per day, and is producing at its capacity. The Pecos River Deep Unit Number 3 Well has recovered 276,112 mcf of gas.

I would like to comment on the gas production shown for the month of March, 1966. The well did not produce any gas during the month. The operator was conducting a workover operation and the well was treated with 8,000 gallons of jelled water and 2,000 gallons of 20 per cent alcohol, 6,000 pounds of sand and 2,000 pounds of glass beads. This is a new type treatment which the operator was trying and the zone treated was one which the operator thinks was not producing previously.

You will note that after this workover, that the gas production had been substantially increased in the well and in the month of May, 1966 the well produced 50,000 mcf, which is

substantially higher than the well has delivered at any time in the past. Because of the recent workover on this well, we really don't have sufficient performance history to make any estimates at this time on the recovery that we expect to get from this well.

I think that pretty well covers the Exhibit 2.

Q Please refer to Exhibit 3.

A Exhibit 3 is entitled Pressure Histories, Wells in the McMillan-Morrow Gas Pool. In general this shows the original pressures and original flow rates and recent pressures and flow rates. The Pecos River Deep Unit Number 1 Well had an original bottom hole pressure of 4,020 pounds. The flowing pressure on a test July 23rd, 1963 was 1430 psi, producing at the rate of 753 mcf of gas per day. In May, 1966 this well was flowing at 1,000 psi, at a rate of 350 mcf of gas per day.

As previously stated, the pressure of the purchaser's line is approximately 1,000 pounds, so this well is getting pretty close to the limit that it will produce into the line at this pressure.

The Pecos River Deep Unit Well Number 3 had an original bottom hole pressure of 4138. On January 12, 1965, the well had a flow pressure of 2384 psi, producing at a rate of 3,933,000 cubic feet per day, and in May, 1966, the well had a flowing pressure of 1,005 psi producing at a flow rate of

1,800,000 cubic feet of gas per day.

The Hondo-Singer A Number 1 Well had an original bottom hole pressure of 3618. On November 16th, 1964 the well had a flowing pressure of 2146 psi, had a flow rate of 343 mcf per day, and in May, 1966 the well is shut in, unable to deliver gas into the line at a thousand pounds pressure.

The Singer C Number 1 Well had an original bottom hole pressure of 4435. On October 2nd, 1964 the flow pressure was 2356 psi at a flowing rate of 3,465,000 cubic feet of gas per day. The conditions in the month of June, 1966 were flowing pressure of 1250 psi at a flow rate of 4,800,000 cubic feet of gas per day. This well had recovered 1,615,836,000 cubic feet of gas as of June 1st, 1966. During the month of June the operator ran several tests during the month, and it was determined that the flowing pressure was declining at a rate of 1673.9 mcf per pound pressure drop.

Based on an extrapolation of this same performance the expected reserves down to the limiting pressure of 1,000 psi flowing pressure would give 386,671 mcf of gas; so, down to the thousand pound pressure point, it's expected that this well will recover very close to 2,000,000,000 cubic feet of gas.

Q Mr. Gray, do you know if the operator has given any consideration to putting any booster compressors on this well,

the last well you referred to, the Singer C Number 1?

A Well, this is a matter that probably will have to be negotiated between the gas purchaser and the operator. Of course, the operator hopes that it will be possible to install compressor facilities so that the gas pressure can be reduced substantially lower than the thousand pounds.

Q In connection with the geology in these four producing wells, have you reviewed this with the geologist for the applicant?

A Yes, I have. I have had quite a lengthy discussion with the geologist for the applicant.

Q Go ahead.

A The geologist is of the opinion that there are at least two, and perhaps three different types of deposits in the area. One type that they consider exists is what they term a flow channel type of deposition, in which the sand body was laid down in the old flow channel. This type of deposit has a characteristic of having maximum thickness pretty well maybe in the center of the flow channel and then narrowing to each side to the edges of the old channel, and also, this type of thing has a characteristic of meander somewhat, just as we know the present river beds do in a lot of cases, so that it's a pretty difficult matter to predict just to where these flow channels might occur.

In addition to the flow channel type, they recognize a delta type of deposition where these flow channels emptied out into a large body of water, and these are fanning out type of build-ups, and I think generally are characterized by a more silty condition than you usually find in the other type of deposits.

The third condition is found along the edges of these old water bodies, and this type of deposit is characterized by being more uniform. Usually they're laid down a little more uniformly than these other types because of the complicated geological conditions in this area. The operator feels that from a standpoint of having a reasonable development program, that it is essential to have a step out at least one mile or the equivalent of 640 acres per well.

Q Do they believe that all three of these conditions exist in this field?

A Well, they think that they probably do. The geologist definitely recognizes two of these different types of depositions, and he feels that there's a good possibility that all three do exist in the area.

Q When these conditions are present do you necessarily have a uniform circular drainage, so to speak, into the well bore?

A No. In fact, what we expect is a very irregular

pattern. For instance, in the case of flow channel type of deposit, we might visualize an old river with its meandering characteristics, and very probably the gas reservoir follows the same type of pattern, so it's very difficult to anticipate really what pattern does exist, and really how far it exists. The fact that we do have such a different characteristics as exhibited by each of these four wells, it's real evidence that each one of these four gas wells behave in their own manner and they're all four entirely different in characteristics so this indicates the problems that we get into in this type of an environment.

MR. PORTER: It makes locating wells a little bit difficult, too, doesn't it?

A Yes, that's right.

Q (By Mr. Losee) Mr. Gray, do you have an opinion as to whether or not these wells in this field would drain 640 acres?

A Well, if we look at some of these recoveries -- For example, the Singer A Number 1 Well has only recovered 33,555 mcf up to the present time, and the well has essentially been depleted down to this thousand pound pressure point. Of course, when the pressure is reduced to, say, a 500 pound pressure limit, which we hope will happen some day, well, the well will be able to recover additional reserves but I think it's quite

evident that this particular well is going to recover a very small amount of gas, and if we try to determine what kind of areal extent that might be drained, well, most assuredly we're looking at a very small area. It's our opinion that this particular well is drilled into a very small localized accumulation which itself doesn't exist out very far. So certainly, this type of thing won't reach out 640 acres, but on the other hand, the Singer C Number 1 Well, we predict that it will recover close to 2,000,000,000 cubic feet down to the thousand pound pressure point, and possibly, maybe 3,000,000,000 at such time as they determine to reduce this down to, say, a 500 pound pressure point.

We don't know too much about the net thickness in this well. We do have a log which shows fairly thick sand body, but no cores were taken; and based on the performance we think that probably in spite of the fairly thick sand section, that there may only be a very few feet of the sand that has sufficient permeability to produce. So, if we have a condition where our sand body is this thin condition over the 640 acres, it probably will drain that all right. If it's a case of where you would have the total sand thickness being produced, well, the equivalent volume of gas, that sand body wouldn't extend that far to account for the reserves, but we are somewhat in the dark because of our lack of knowledge of

the exact footage in this well that has sufficient permeability.

Our guess is that this well will drain 640 acres, probably. I think you have to go from one extreme to the other. Each of these wells are different and you get into these little localized traps, well, you are talking about considerably less than 640 acres, maybe no more than 40 acres in some cases, but the Applicant hopes that this isn't the best part of the area yet, and I think that their hopes for future drilling are based on their hope that there are some better areas in here that will definitely, without any question drain 640 acres.

Q Mr. Gray, based upon your review of these four wells, do you have an opinion as to whether it's economical to, based on this history, to develop the field on less than 640 acres?

A Well, our estimates of ultimate gas production from the Singer C Number 1 Well would indicate that this well will just barely pay out down to the thousand pound pressure point and if it's continued on down lower, perhaps the operator can recover a slight amount in addition to the actual cost, but certainly, on the basis of anything less than 640 acres, well, the project would be a loss without any chance at all for any profit at all.

Q Mr. Gray, in your opinion, will the continuing in effect the existing 640 acre spacing for this McMillan-Morrow

Pool prevent waste and protect correlative rights?

A I think it will prevent waste and protect correlative rights. The reason I say I think it will prevent waste, I feel quite sure in talking with the operator, he's given me -- the operator, at least, that they just wouldn't be interested in developing any further if they have to develop it on the basis of 320 acre units, so, if they should revert back to 320 acres, I don't believe that there's going to be any more exploration work done in this area. I feel that if they continue on 640 acre spacing, that then they quite likely will do some additional development, and perhaps recover some additional new gas and oil that hasn't been recovered up to this point.

Q Were Exhibits 1 through 3 prepared by you?

A Yes, sir.

MR. LOSEE: We'll offer Exhibits 1 through 3 in evidence.

MR. UTZ: Without objection they will be entered into the record.

(Whereupon, Exhibits 1 through 3 offered and admitted into evidence.)

MR. LOSEE: That's all we have.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Gray, does the operator have any intentions of

drilling any more wells at this time?

A Yes, they have intentions of drilling some more wells.

Q Do they have any projected dates for drilling?

A Not to my knowledge, no sir. I might state that there are several different interests who are different operators, or companies, who have interests in this unit, and of course, it's a matter of getting the approval of all these people on each particular well, but in my discussion with the operator, well, he certainly gave me the impression that they do hope to do some additional drilling.

Q In the absence of proration, 320 acre spacing would not lessen your production rates, would it?

A No, sir. It wouldn't lessen our present producing rates.

Q Then the disadvantage of 320 acre spacing would be the step outs from the participating area in the unit?

A Yes. The Applicant doesn't feel justified in short step outs in this type of thing. As you can readily see, the economics of the four wells as a whole will be very poor and on that kind of a situation, the only attraction, you might say, to the operator is the hope of getting something better, and certainly in order to do this, well, they wouldn't be satisfied to take a short step out. They would want to go

out at least somewhere in the neighborhood of a mile or some such figure.

Q You could still do this on 320 acre spacing.

A Well, yes, but the point is, that if they do, if they are successful in completing a gas well, then they want to be able to drain 640 acres in order to pay this well out, and if they're only permitted to drain 320 acres, well then, it's very likely that these won't pay out.

Q If they stepped out a mile and got a well they would be obligated to drill in between?

A You say they would be obligated to drill in between?

Q I say, would they?

A I don't know. This is in a Federal unit, and, of course, they have to work the development program out on these things with the Federal Government. I can't really answer at this time as to whether they would be obligated or not.

Q Who is the purchaser?

A The gas purchaser?

Q Yes.

A Phillips Petroleum Company, and Continental too, I believe purchase some of this gas, but Phillips Petroleum is the big gas pruchaser.

Q This gas goes through a gasoline plant?

A Yes, I think so, part of it.

MR. UTZ: Any other questions of the witness?

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Gray, from what you said about the geology of the area, do you think all of these wells are in communication with each other?

A Some of them, we think, are producing from a common reservoir, if that -- May I interpret your statement as being that?

Q That's right.

A It might be desirable to refer back to an Exhibit that we had in the original case. We didn't prepare copies for this particular Hearing, inasmuch as they were presented in the previous Hearing, but if you will refer back to our Exhibit Number 12 in the original Hearing; Exhibit Number 12 shows a cross section going through each of these wells, and if you will refer to the logs on the Pecos River Deep Unit Number 3, the Exhibit shows in color two producing intervals, an upper and a lower zone.

Then over in the Singer C Number 1 Well, which is the next well over, the red producing interval there, there are two red producing intervals shown here. The lower interval of which correlates with the lower interval in the Pecos River Deep Unit Number 3 Well. However, the upper interval appears

to be a different zone --

Q Yes.

A -- so we think that there is correlation and communication between these two wells in that lower sand body.

Now, as we go on over to the Singer A Number 1 Well, this well is producing from an upper, rather thin interval which we don't readily correlate with the Singer C 1 Well, and then as you go on over to the Pecos River Deep Unit Number 1 Well you will note three colored producing intervals, one in the very top part of the Morrow Section, and one on the very bottom part, although it's difficult to really correlate any of those zones with the zones in the other wells, and then, in between these two wells, the Harvey E. Yates Federal Number 1 Well is not productive in the Morrow, so if you will study the logs on each one of these wells, I think you will conclude that these wells are quite erratic from well to well. It's very difficult to correlate.

MR. PORTER: That's all I have.

MR. UTZ: Any other questions?

MR. LOSEE: I have some --

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

MR. LOSEE: I have some further questions, Mr. Examiner.

REDIRECT EXAMINATION

BY MR. LOSEE:

Q Please refer back to Exhibit 1, Mr. Gray. You have been referring to these wells as being located within a unit. Actually, from this Exhibit, the boundary of the Pecos River Deep Unit lies to the west of the Harvey E. Yates Singer Number 1 and Singer C Number 1 Wells, so actually, those wells are not located within the boundary of the Pecos River Deep Unit?

A Why, that's correct there, the two wells that are outside the boundary.

Q So any development in this pool to the east and actually, to the north of the Harvey Yates Singer A Number 1 would be development outside the boundaries of the unit?

A Yes, sir, that's correct.

Q And if a step out were made of a mile and production encountered in this zone, the operator, or at least the owner of the intervening 320 acre tract would be required to develop it, would he not?

A Yes, I think that would be true.

MR. LOSEE: I think that's all.

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

(Witness excused.)

MR. UTZ: Statements in this case? The case will

be taken under advisement.

I N D E X

E X H I B I T S

EXHIBIT	MARKED FOR IDENTIFICATION	OFFERED	ADMITTED
Nos. 1 through 3	2	12	12

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

Witness my Hand and Seal this 30th day of July, 1966.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3252, heard by me on July 19, 1966.

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

STATE "B" GAS UNIT NO. 1

1. Discovery Date: August 24, 1953

2. Initial Potential: CAOF = 30 MMCFPD
   + 24 BCPD

3. TD = 12,341

4. PBD = 10,270

5. Ø = 7.5% (log)

6. Sw = 20%

7. Gas-Liquid Ratio
   July 1968 - 132,000 CF/BC
   Ave. over life of well = 73,000 CF/BC

8. Cumulative Production 8-1-68 = 17,049,674 MCF
   224,941 BC

9. Gas Gravity = 0.638

10. Specific Gravity Liquid = 0.753
    Gravity Liquid = 59.6° API

11. Abandonment Pressure = 500 psi

12. Original BHP = 4068 psi (-6420)

13. BHT = 154°

3

MONTHLY PRODUCTION

McMILLAN-MORROW GAS POOL

	HARVEY E. YATES				YATES DRILLING CO.			
	HONDO SINGER "A" #1		HONDO SINGER "C" #1		PECOS R. DEEP UNIT #1		PECOS R. DEEP UNIT #3	
1965	MCF GAS	BBLS. OIL	MCF GAS	BBLS.OIL	MCF GAS	BBLS. OIL	MCF GAS	BBLS. OIL
June	1,823	3	19,956	241	4,462	41	15,191	229
July	3,973	4	50,218	300	11,370	2	34,512	250
Aug.	5,868	11	158,290	1,285	19,819	114	65,216	398
Sept.	4,066	19	126,051	1,319	9,731	45	30,466	205
Oct.	5,674	19	171,211	1,284	8,011	25	47,859	29
Nov.	3,994	16	169,217	1,246	4,977	27	5,382	3
Dec.	3,000	7	157,601	872	2,420	11	1,647	3
	28,398	79	852,544	6,547	60,790	265	200,273	1,117
1966								
Jan.	3,264	14	147,576	1,029	2,328	4	2,328	4
Feb.	1,893	--	138,960	653	4,918	4	838	1
Mar.	Shut-In		164,522	1,119	7,616	4	0**	3
Apr.			144,670	1,137	5,613	33	22,673	260
May			167,564	1,087	10,888	29	50,000*	357
Cumulative as of 6-1-66	33,555	93	1,615,836	11,572	92,153	339	276,112	1,742

* Approximate

** Treated w/8,000 gal. jel water and 2,000 gals. 20% alconol, 6,000# sand, 2,000# glass beads - 10,298-10,324.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 3252

Exhibit #2

PRESSURE HISTORIES

WELLS IN McMILLAN MORROW GAS POOL

YATES DRILLING CO. - PECOS RIVER DEEP UNIT WELL #1

Original BHP - - 4,020 psig.

July 23, 1963

Flow Pressure - - 1,430 psi.

Flow Rate - - - - 753 MCFPD

May 1966

Flow Pressure - - 1,000 psi.

Flow Rate - - - - 350 MCFPD

Cumulative gas recovery (6-1-66) 92,153 MCF.

YATES DRILLING CO. - PECOS RIVER DEEP UNIT WELL #3

Original BHP - - 4,138 psig.

Jan. 12, 1965

Flow Pressure - - 2,384 psi.

Flow Rate - - - - 3,933 MCFPD

May 1966

Flow Pressure - - 1,005 psi.

Flow Rate - - - - 1,800 MCFPD

Cumulative gas recovery (6-1-66) 276,112 MCF.

HARVEY E. YATES - HONDO SINGER "A" WELL #1

Original BHP - - 3,618 psig.

November 16, 1964

Flow Pressure - - 2,146 psi.

Flow Rate - - - - 343 MCFPD

May 1966

Well unable to deliver gas into line with 1,000 psi.
Well Shut-in.

Cumulative gas recovery (6-1-66) 33,555 MCF.

Exhibit #3

PRESSURE HISTORIES (Continued)

HARVEY E. YATES - HONDO SINGER "C" WELL #1

Original BHP - - 4,435 psig.

Oct. 2, 1964

Flow Pressure - - 2,356 psi.

Flow Rate - - - - 3,465 MCFPD

June 1966

Flow Pressure - - 1,250 psi.

Flow Rate - - - - 4,800 MCFPD

Cumulative gas recovery (6-1966) 1,615,836 MCF.

Presently, flowing pressure declining at rate of 1,673.9 MCF/lb. drop.

Expected reserves to 1,000 psi. flowing pressure - 386,671 MCF.

TABULATION OF PRODUCTION
EMPIRE PENNSYLVANIAN GAS POOL
EDDY COUNTY, NEW MEXICO

Year/ Month	(MCF) Gas Production	Cum. Gas Production (MCF)	Bbls. Cond. Production	Cum. Cond. Production (Bbl.)
1954	664,844	664,844	15,005	15,005
1955	605,852	1,270,696	25,078	40,083
1956	1,213,716	2,484,412	20,383	60,466
1957	1,111,892	3,596,304	18,080	78,546
1958	796,049	4,392,353	12,303	90,849
1959	716,620	5,108,973	12,363	103,212
1960	1,348,308	7,338,381	19,916	123,128
1961	1,581,315	8,919,696	20,459	143,587
1962	1,308,267	10,227,963	16,024	159,611
1963	1,348,919	11,576,882	14,653	174,264
1964	1,586,598	13,163,480	17,495	191,759
1965				
Jan.	193,643		1,897	
Feb.	152,590		1,258	
Mar.	129,095		874	
Apr.	118,082		1,046	
May	158,970		1,472	
June	152,364		1,413	
July	123,385		1,078	
Aug.	104,580		997	
Sept.	72,173		623	
Oct.	93,040		847	
Nov.	75,202		683	
Dec.	101,479	14,638,083	862	204,809
1966				
Jan.	129,030		1,103	
Feb.	124,962		1,200	
Mar.	142,575		1,364	
Apr.	154,994		1,332	
May	44,791		329	
June	92,999		799	
July	127,438		1,075	
Aug.	108,157		944	
Sept.	112,371		1,008	
Oct.	111,043		1,002	
Nov.	102,380		919	
Dec.	106,915	15,995,738	865	216,749

Year/ Month	(MCF) Gas Production	Gas Production	Bbls. Cond. Production	Cum. Cond. Production
1967				
Jan.	120,636		982	
Feb.	80,820		602	
Mar.	126,314		1,125	
Apr.	140,703		1,125	
May	135,001		1,017	
June	35,541		254	
July	16,726		101	
Aug.	60,135		377	
Sept.	86,944		632	
Oct.	16,799		152	
Nov.	118,412		961	
Dec.	39,246	16,973,015	275	224,352
1968				
Jan.	2,358	16,975,373	5	224,357
Feb.	9,753	16,985,126	23	224,380
Mar.	33,292	17,018,418	339	224,719
Apr.	3,496	17,021,914	27	224,746
May	2,328	17,024,242	18	224,764
June	2,420	17,026,662	3	224,767
July	23,012	17,049,674	174	224,941

YATES DRILLING CO. - PECOS RIVER DEEP UNIT #1

WELL DATA

Location: 1980' from north and west lines, Section 28-19S-27E.

Elevation: 3518 K.B.

Completion Date: May 9, 1963

Total Depth: 10,741, PB to 10,424'.

Casing: 4½" at 10,511' with 950 sacks.

Casing Perforations: 10,227-37', 10,241-46', 10,251-61', 10,326-39', 10,348-63' and 10,365-74'.

Treatments: Acidized with total of 16,000 gallons; fraced with 8,600 gallons oil plus 3,000# sand.

Initial Potential: Flowed 1,002 MMCF of gas per day + 10 bbls. distillate per MMCF.

Producing Zone: Morrow (Penn) Sands.

Pay Intervals: 10,241-247; 10,251-261 and 10,360-364.

MULTI-POINT BACK PRESSURE TESTS

Test Date: July 23, 1963.

HOURS	RATE OF FLOW	WELL HEAD PRESSURE
3	469 MCFPD	2145 psia.
21	753 MCFPD	1430 psia.
4	979 MCFPD	941 psia.
3	1,129 MCFPD	326 psia.

Absolute Open Flow: 1,150 MCFPD.
Reservoir Temperature - 162° F.
Original Reservoir Pressure - 4,020 psig.

DRILL STEM TESTS

10,198-10,255 - Tool open 4½ hours. Gas to surface in 4 minutes. Flowed at rate of 1.1 MMCFPD. 60 minute initial shut-in pressure - 4020 psi.
60 minute final shut-in pressure - 3900 psi.
Flow Pressure - 210 psi.

10,260-10,374 - Tool open 2 hours. Gas to surface in 13 minutes. Flowed 3.1 MMCFPD.
60 minute initial shut-in pressure 4630 psi.
Final shut-in pressure 4545.
Flowing Pressure 470-540 psi.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 3252

Exhibit 3

YATES DRILLING CO. - PECOS RIVER DEEP UNIT #3

WELL DATA

Location: 1980' from north and 660' from east lines of Section 13-20S-26E.

Elevation: 3347 K.B.

Completion Date: Jan. 12, 1965

Total Depth: 10,392'

Casing: $5\frac{1}{2}$" at 10,256' with 850 sacks.

Producing Interval: Open hole 10,256-10392'

Treatment: None

Initial Potential: Flowed 3,933 MMCFPD

Producing Zone: Morrow (Penn) Sands.

Pay Intervals: 10,254-262 (4' net)
10,304-10,324 (20' net)

MULTI-POINT BACK PRESSURE TESTS

Test Date: Jan. 12, 1965

HOURS	RATE OF FLOW	WELL HEAD PRESSURE
72	Shut-in	3,095 psig.
1	1,236 MCFPD	2,941 psig.
1	2,100 MCFPD	2,785 psig.
1	2,779 MCFPD	2,596 psig.
1	3,933 MCFPD	2,384 psig.

Absolute Open Flow: 9,980 MMCFPD

Reservoir Temperature: 172° F.

Original Reservoir Pressure: 4138 psig. at 10,250'.

DRILL STEM TESTS

10,135-228, Tool open $2\frac{1}{2}$ hours. Gas to surface in 30 minutes. Estimate flowed 50 MCFPD. No initial shut-in pressure. Two hour final shut-in pressure 4,006 psi. Flow pressure 170-203 psi.

10,302-392, Tool open 2 hours. Gas to surface in 9 minutes. Too small to measure. Two hour initial shut-in pressure 4208 psi. Two hour final shut-in pressure 4208 psi. Flow pressure 87-131 psi.

Exhibit 4

HARVEY E. YATES - SINGER "A" #1

WELL DATA

Location: 660' from south and east lines of Section 7-20S-27E.
Elevation: 3342 K.B.
Completion Date: Nov. 20, 1964
Total Depth: 10,431, PB to 10,408'.
Casing: $5\frac{1}{2}$" at 10,305' with 100 sacks.
Producing Interval: Morrow Zone - Open hole 10,295-408'.
Atoka Zone - Perforated 9945-53.
Treatments: Shot 10,328-408 with 200 qts.
Initial Potential: Morrow Zone - Flowed 306 MCFPD
Atoka Zone: Flowed 3,000 MCFPD
Producing Zones: Morrow (Penn) Sands and Atoka
Pay Intervals: Morrow Zone: 10,309-314 (5' net)
Atoka Zone: 9945-53 (5' net)

MULTI-POINT BACK PRESSURE TESTS

MORROW ZONE

Test Date: Nov. 16, 1964

HOURS	RATE OF FLOW	WELL HEAD PRESSURE
72	Shut-in	2970 psig.
1	158 MCFPD	2726 psig.
1	196 MCFPD	2552 psig.
1	254 MCFPD	2378 psig.
1	343 MCFPD	2146 psig.

Absolute Open Flow: 575 MCFPD
Reservoir Temperature: 170° F.
Original Reservoir Pressure: 3618 psig.

ATOKA ZONE

Test Date: Nov. 20, 1964

HOURS	RATE OF FLOW	WELL HEAD PRESSURE
70	Shut-in	2703 psig.
1	329 MCFPD	2523 psig.
1	439 MCFPD	2401 psig.
1	543 MCFPD	2240 psig.
1	675 MCFPD	1976 psig.

Absolute Open Flow: 1,050 MCFPD
Original Reservoir Pressure: 4431 psi.

DRILL STEM TESTS

9,710-9,980 - Tool open 4 hrs. 15 min. Gas to surface in 4 minutes. Flowed gas at rate of 3 MMCFPD. 90 Minute Initial Shut-in Pressure 4431 psi. 95 Minute Final Shut-in Pressure - 4058 psi. Flow Pressure 856-558 psi. (Atoka Zone)

10,206'-10,307' - Tool open $1\frac{1}{2}$ hrs. Had fair to weak blow. 60 Minute Initial Shut-in Pressure - 236 psi. 60 Minute Final Shut-in Pressure - 214 psi. Flow Pressure 116-107 psi. (Morrow Zone)

HARVEY E. YATES - HONDO SINGER "C" #1

WELL DATA

Location: 1980' from north and west lines of Section 18-20S-27E.

Elevation: 3322 K.B.

Completion Date: Oct. 2, 1964

Total Depth: 10,399'.

Casing: 7" to 8889'. 4½" Liner from 8774' to 10,246' with 70 sacks cement.

Producing Interval: Open hole 10,246 to 10,399'.

Treatments: None.

Initial Potential: Flowed 3,465 MMCFPD.

Producing Zone: Morrow (Penn) Sands.

Pay Intervals: Gas showed at 10,328'.
Estimated pay 10,328-340 (net 5')
Main pay: 10,350 to 10,391 (net 23')

MULTI-POINT BACK PRESSURE TESTS

Test Date: Oct. 2, 1964.

HOURS	RATE OF FLOW	WELL HEAD PRESSURE
72	Shut-in	3307 psi.
1	1,002 MCFPD	3009 psi.
1	1,337 MCFPD	2923 psi.
1	1,531 MCFPD	2836 psi.
1	3,036 MCFPD	2463 psi.
1	3,465 MCFPD	2356 psi.

Absolute Open Flow: 7,750 MCFPD

Reservoir Temperature: 169° F.

Original Reservoir Pressure: 4435 psi. at 10,050'.

Recent Test: Approximately ~~10 MMCFPD.~~

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 3252

Exhibit 6

COLEMAN PETROLEUM ENGINEERING COMPANY

PHONE EXpress 3-3813 611 GRIMES P. O. BOX 1625 HOBBS, NEW MEXICO

JULY 31, 1963

YATES DRILLING COMPANY
309 CARPER BUILDING
ARTESIA, NEW MEXICO

GENTLEMEN:

RE: YATES DRILLING COMPANY
UNDESIGNATED MORROW GAS
PECOS RIVER DEEP UNIT, No. 1
EDDY COUNTY, NEW MEXICO
GAS ANALYSIS TEST

A GAS SAMPLE WAS TAKEN DURING TESTING OPERATIONS AND THE COMPONENT PERCENTAGES ARE LISTED AS FOLLOWS:

HELIUM	0.00
CARBON DIOXIDE	0.20
NITROGEN	1.03
METHANE	92.04
ETHANE	4.71
PROPANE	1.39
ISOBUTANE	0.15
NORMAL BUTANE	0.20
PENTANE	0.20
HEXANE, PLUS	0.08
	100.00
CALC. SP. GR.	0.6094
CALC. BTU (SAT.)	1059

VERY TRULY YOURS
COLEMAN PETROLEUM ENGINEERING CO.

JOE A. COLEMAN
P.E. N.M. CERTIFICATE No. 2208

JAC/VR

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
CASE NO. 3252

Exhibit 7

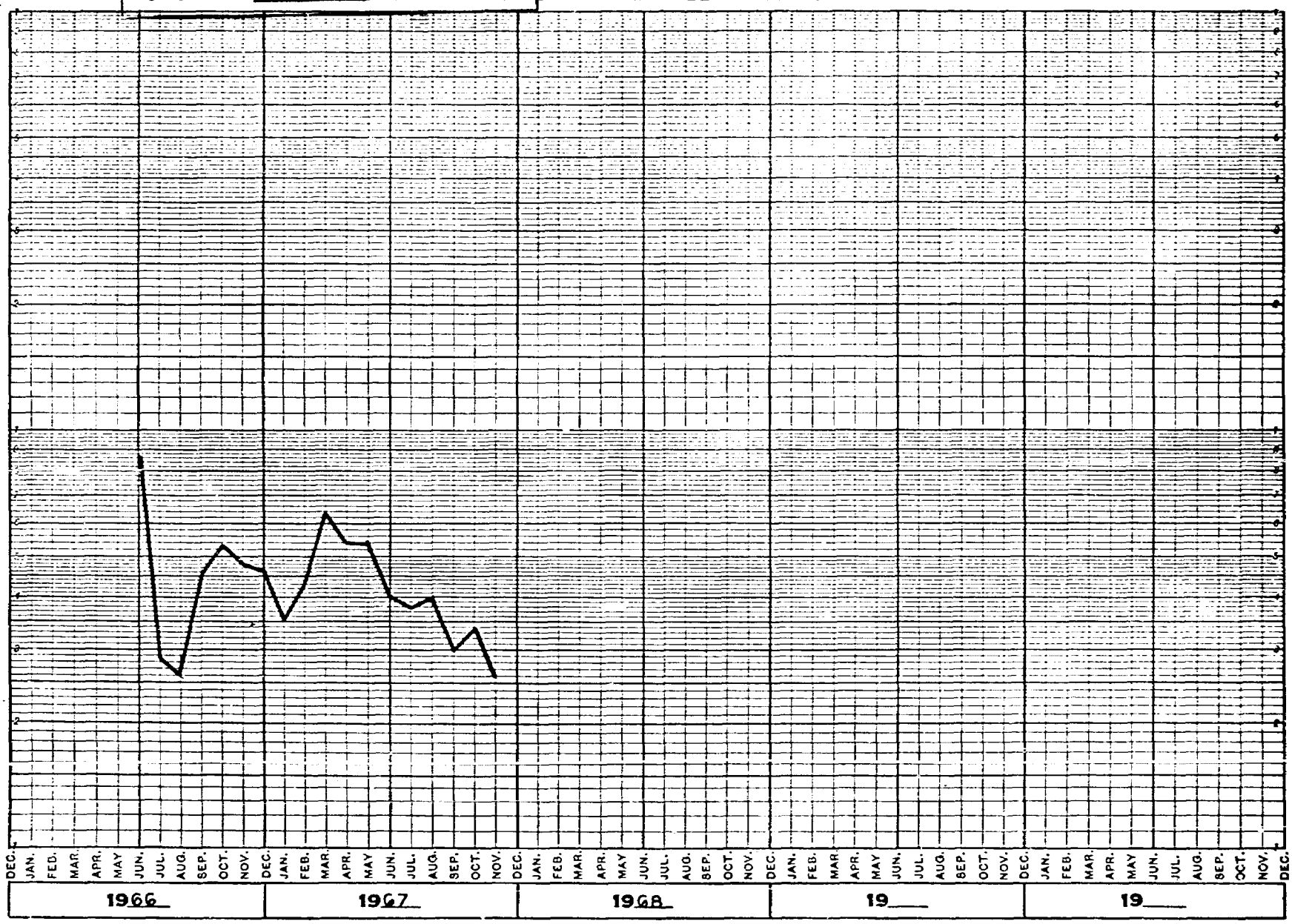
MONTHLY PRODUCTION
McMILLAN-MORROW GAS POOL

	HARVEY E. YATES HONDO SINGER "C" #1		BBLS. DIST./ MMCF*	YATES DRILLING COMPANY PECOS R. DEEP UNIT #1		PECOS R. DEEP UNIT #3		BBLS. DIST./ MMCF**
1966	MCF. GAS	BBLS. OIL		MCF GAS	BBLS. OIL	MCF GAS	BBLS. OIL	
June	155,703	936	6.0	8,696	34	60,040	345	5.7
July	153,256	861	5.6	2,847	0	90,798	322	3.5
Aug.	145,072	813	5.6	2,631	0	46,560	293	6.3
Sept.	130,314	691	5.3	4,503	10	42,463	213	5.0
Oct.	129,171	707	5.5	5,298	4	50,320	247	4.9
Nov.	119,342	620	5.2	4,829	7	46,261	213	4.6
Dec.	81,045	409	5.0	4,574	2	45,026	208	4.6
	1,677,195	10,062		64,741	131	457,307	2,466	
1967								
Jan.	74,460	279	3.8	3,543	8	43,248	166	3.9
Feb.	69,194	387	5.6	4,257	4	39,620	173	4.4
Mar.	76,551	355	4.6	6,398	7	39,530	172	4.4
Apr.	68,550***	513	7.5	5,432	7	29,648	113	3.8
May	75,353	401	5.3	5,381	2	20,721	54	2.6
June	67,469	190	2.8	3,990	6	9,503	3	
July	79,558	408	5.1	3,820	7	34,111	51	
Aug.	82,446	334	4.1	4,021	3	13,273	177	
Sept.	68,843	325	4.7	3,021	4	12,626	86	
Oct.	79,001	234	3.0	3,429	10	10,541	76	
Nov.	39,861	145	3.6	2,633	3	11,916	53	
Dec.								
	781,286	3,571		45,925	61	264,737	1,124	
Cumulative as of 12-1-67	3,311,025	20,180		171,456	457	922,317	4,707	

* Bbls. Dist./MCF originally 8.0
** Bbls. Dist./MMCF originally 9.3
*** Cumulative gas to 5/1/67 - 2,818,494 MCF.

Harvey E. Yates - Hondo Singer "A" #1 is shut-in. Cumulative figures as of 6-1-66 are 33,355 MCF of gas and 93 bbls. oil.

YATES PECOS RIVER DEEP UNIT #1



YATES - PECOS RIVER DEEP UNIT #3

BENNETT WIRE LINE SERVICE

ARTESIA, N.M.
~~EAST MAIN ST.~~ 305 McARTHUR
PHONE SH.6-3281

~~HOBBS, N.M.~~
~~P.O. BOX 1532~~
~~PHONE EX 2-3987~~

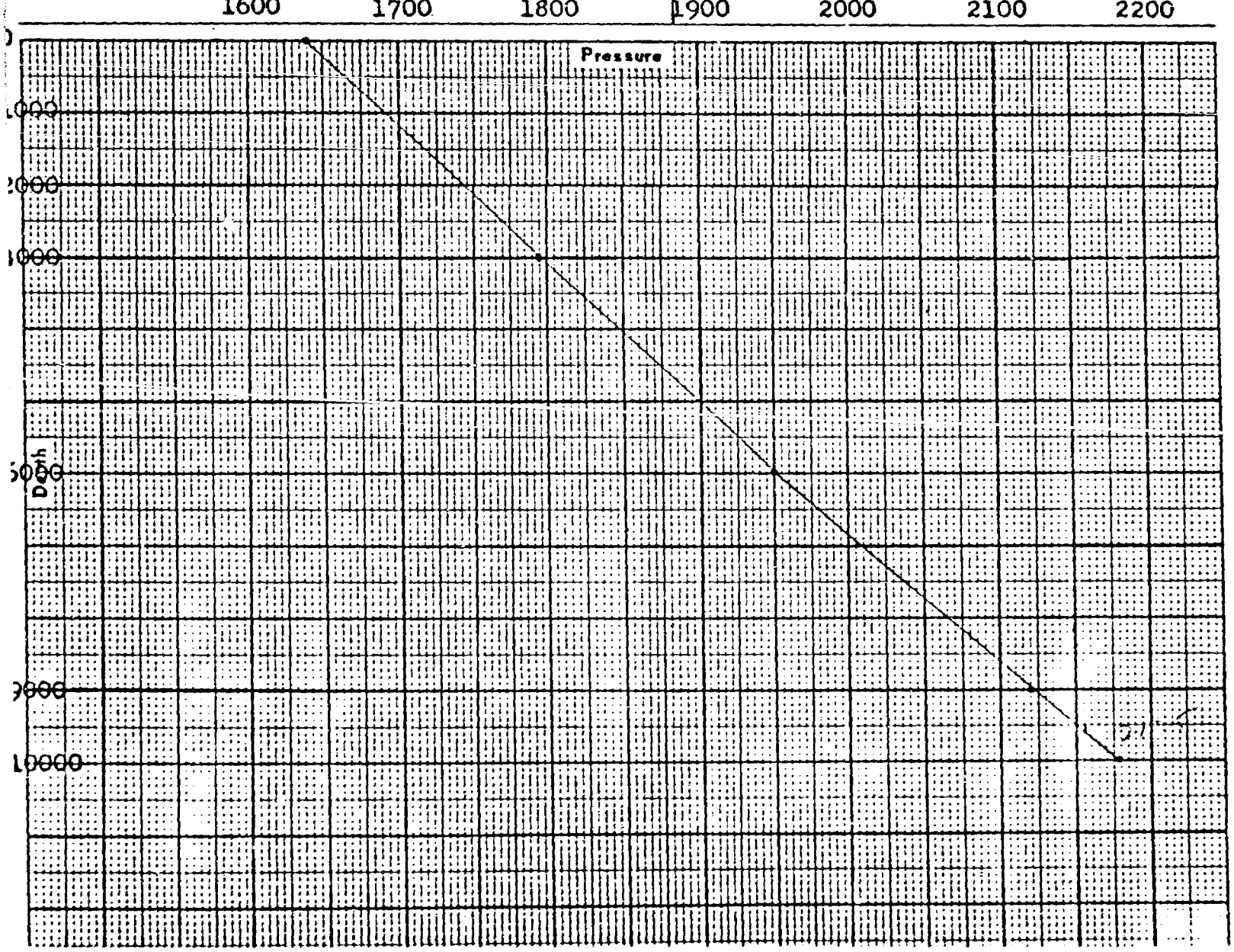
BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR HARVEY E. YATES
LEASE SINGER "C"
WELL NO. 1
FIELD
DATE 4/21/67 TIME 10:00 AM

STATUS Shut-in TEST DEPTH
TIME S.I. 48 hrs. LAST TEST DATE
CAS. PRES. BHP LAST TEST
TUB. PRES. 1639 lbs BHP CHANGE
ELEV. FLUID TOP None
DATUM WATER TOP None
TEMP 173 ° RUN BY E.D. Bennett
CLOCK NO. GAUGE NO. 381
ELEMENT NO. 381

DEPTH	PRESSURE	GRADIENT Lbs./100'
0 Ft.	1639 Lbs.	
3000 "	1794 "	05.2
6000 "	1950 "	05.2
9000 "	2120 "	05.7
10000 "	2178 "	05.8

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. R-2987



BOTTOM HOLE PRESSURE & GAS RESERVE DATA

HARVEY E. YATES - SINGER "C" #1

Initial Bottom Hole Pressure at 10,000' was 4,435 psig.

Shut-in Bottom Hole Pressure taken at 10,000' on April 21, 1967 was 2,178 psig.

Gas produced to April 21, 1967 was 2,818,494 MCF.

This is equivalent to 1,249 MCF of gas production per pound pressure drop.

Remaining gas reserves to 1,000 psi. bottom hole pressure is 1,471,322 MCF.

Estimated ultimate gas recovery is 4,289,816 MCF.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 3252

ULTIMATE PAYOUT STATUS

McMILLAN-MORROW GAS AREA

EDDY COUNTY, NEW MEXICO

WELL	GROSS RECOVERABLE GAS-MCF	W. I. RECOVERABLE GAS-MCF	W. I. DIST.-BBLS.	ULT. W.I. INCOME GAS & DISTILLATE	TOTAL COST	WORKING INTEREST PROFIT OR LOSS ( )
Yates - Pecos River Deep Unit #1	191,856	163,000	430	$ 22,235	$310,000	($287,765)
Yates - Pecos River Deep Unit #3	1,042,317	885,000	4,300	$125,499	$310,000	($184,501)
Harvey Yates - Singer "A" #1	33,555	28,500	79	$ 3,897	$310,000	($306,103)
Harvey Yates - Singer "C" #1	4,289,816	3,640,000	19,600	$520,828	$310,000	$210,828
				Total 4 wells are expected to lose		$567,541

Assume recoverable gas is 469 MCF/Ac. Ft.

Assume drainage is 640 acres.

Net feet of pay to drain recoverable gas would be as follows:

Pecos River Deep Unit #1 - - - - .64 feet

Pecos River Deep Unit #3 - - - - 3.47 feet

Harvey Yates - Singer "A" #1 - - .11 feet

Harvey Yates - Singer "C" #1 - - 14.29 feet.

Darrell W. Smith Co.
PHONE OX 4-2511—MIDLAND, TEXAS
PHONE EX 3-6173—HOBBS, N. MEX.

FULL DIAMETER CORE STUDY

Operator Yates Drilling Company **Field** Undesignated **Formation** Morrow

Well No. 1 Pecos River Deep Unit **Location** 1980' FNL & 1980 FWL, Section 28-19S-27E

Depths 10,255-10,374 **Date** March 31, 1963 **Lab No.** 676-K

SAMPLE NO.	REPRESENTATIVE OF FEET	FOOTAGE	PERMEABILITY, MD. HORIZONTAL		EFFECTIVE POROSITY %	SATURATION % OF PORE SPACE RESIDUAL OIL	SATURATION % OF PORE SPACE WATER	DESCRIPTION
				MATRIX PERM.				
			Core No. 1 10,255-10,264.5 (9.5 Ft.)					
			Recovered 10,255-10,264.5 (9.5 Ft.)					
1	10255-56	1.0	67.	0.04	11.7	0	36.8	Vfg gray Ss slty shy top 4" sh
2	10256-57	1.0	0.46	-	6.6	0	31.8	Vfg gray Ss slty shy
3	10257-58	1.0	0.49	-	7.7	0	36.4	Vfg gray Ss slty shy
4	10258-59	1.0	Broken	0.10	9.1	0	20.9	Vfg gray Ss slty shy
5	10259-60	1.0	6.7	-	8.6	0	26.7	Vfg gray Ss slty shy
6	10260-61	1.0	20.	0.02	7.0	0	24.3	Vfg gray Ss slty shy
7	10261-62	1.0	1.3	-	5.4	0	35.2	Vfg-fg Ss slty shy Sh ptgs
8	10262-63	1.0	0.58	0.36	5.4	0	46.3	Vfg-fg Ss slty shy Sh ptgs
	10263-64	1.0	-	0.11	-	-	-	Sh black bottom 4" fg-cg Ss Not Analyzed
	10264-64.5	0.5	-	-	-	-	-	Sh black sandy Not Analyzed
	10264.5-10357	92.5	-		-	-	-	Drilled
			Core No. 2 10,357-10,374 (17 Ft.)					
			Recovered 10,357-10,373.5 (16.5 Ft.)					
9	10357-58	1.0	5.1	-	6.0	0	61.7	Vfg gray Ss slty shy bottom 4" black sh V
10	10358-59	1.0	0.20	-	6.1	0	36.1	Vfg gray Ss slty shy VF
11	10359-60	1.0	<1000.	0.26	2.6	0	25.4	Vfg gray Ss slty PPP M VF
12	10360-61	1.0	17.	3.5	9.4	0	28.5	Vfg gray Ss slty PPP VF
13	10361-62	1.0	14.	8.5	9.9	0	23.1	Vfg gray Ss slty PPP
14	10362-63	1.0	6.6	0.71	10.5	0	25.2	Vf-cg gray Ss slty PPP
15	10363-64	1.0	0.26	-	7.1	0	54.9	Vf-cg gray Ss slty PPP bottom 4" Black sh
16	10364-65	1.0	0.67	-	4.7	0	46.8	Vf-cg gray Ss slty shy top 6" black sh

Table 5.

PAGE NO. 2 OPERATOR Yates Drilling Company LAB NO. 676-II

SAMPLE NO.	REPRESENTATIVE OF FEET	FOOTAGE	PERMEABILITY, MD. HORIZONTAL	MATRIX PERM.	EFFECTIVE POROSITY %	SATURATION % OF PORE SPACE RESIDUAL OIL	SATURATION % OF PORE SPACE WATER	DESCRIPTION
17	10365-66	1.0	0.22	-	4.9	0	48.2	Vf--fg gray Ss slty shy IF
18	10366-67	1.0	3.1	0.12	5.6	0	36.1	Vfg gray Ss slty very shy bottom 6" blk sh
19	10367-68	1.0	1.1	-	4.0	0	32.5	Vf-cg gray Ss Sh ptgs slty shy sl lmy
20	10368-69	1.0	0.20	-	5.0	0	34.0	Vf-fg gray Ss Sh ptgs slty shy sl lmy
21	10369-70	1.0	0.06		7.3	0	39.6	Vfg gray Ss slty shy sl lmy
22	10370-71	1.0	0.08		4.3	0	39.3	Vfg gray Ss slty shy sl lmy VF
23	10371-72	1.0	0.95		4.9	0	36.3	Vfg gray Ss slty shy sl lmy VF
24	10372-73	1.0	0.09		4.6	0	30.9	Vfg gray Ss slty shy sl lmy
25	10373-74	1.0	0.45		3.2	0	25.0	Vfg gray Ss slty shy sl lmy

-01 FS/

Table 5.

RGM CORE ANALYSIS LTD

ABILENE, TEXAS — MONAHANS, TEXAS — HOBBS, NEW MEXICO
OKLAHOMA CITY, OKLAHOMA — MIDLAND, TEXAS

REPORT OF CORE ANALYSIS

COMPANY Yates Drilling Company
FEE Pecos River Deep Unit WELL NO. 3
FIELD Undesignated
LOCATION 660' FEL, 1980' FNL, Sec. 13, T20S, R26E
COUNTY Eddy STATE New Mexico

ELEVATION 3335' GL
DRILLING FLUID Oil-Water Emulsion
FORMATION Morrow
TYPE OF CORE Diamond (3")
ANALYST BT, JH SERVICE "C"
LAB NO. H-576 DATE 1-1-65

THESE ANALYSES ARE BASED UPON ACCEPTED LABORATORY TECHNIQUES. THE OPINIONS ADVANCED REPRESENT OUR BEST JUDGMENT IN INTERPRETATION OF THE RESULTS BUT NO WARRANTY IS EXPRESSED OR IMPLIED

G—GAS
O—OIL
T—TRANSITIONAL
W—WATER
F—FRACTURED
P—PIN POINT POROSITY
V—VUGULAR
S—STYLOLITIC

SAND | LIMESTONE | GRANITE WASH
SHALE | DOLOMITE | ANHYDRITE

TABULAR PRESENTATION

FULL DIAMETER CORE ANALYSIS

SAMPLE NO.	DEPTH OF SAMPLE	POROSITY (%)	PERMEABILITY (millidarcys) HORIZONTAL OR MAXIMUM	PERMEABILITY (millidarcys) VERTICAL OR 90° TO MAX	SATURATION DATA (% pore space) OIL	SATURATION DATA (% pore space) TOTAL WATER	PROBABLE FLUID	CORING TIME Min./Ft.
								10
								25
								39
								21
								29
								23
								23
								27
								27
								31
								25
1	10304.5-05.0	6.1	0.3	0.2	14.0	44.7		14
2	10305.0-06.0	7.7	0.3	0.3	11.6	39.7		12
3	10306.0-07.0	7.8	0.8	0.3	17.3	36.9		12
4	10307.0-08.0	8.6	0.5	0.5	16.9	37.0		21
5	10308.0-09.0	10.6	2.9	2.7	19.6	34.4		16
6	10309.0-10.0	10.5	4.3	3.8	23.7	27.5		18
7	10310.0-11.0	9.2	1.4	1.2	21.0	29.9		13
8	10311.0-12.0	7.7	1.6	1.5	15.5	33.4		17
9	10312.0-13.0	9.3	2.0	1.8	22.6	28.1		22
10	10313.0-14.0	7.2	0.6	0.5	17.7	46.7		27
11	10314.0-15.0	6.2	0.8	0.7	20.8	22.0		24
12	10315.0-16.0	7.2	6.7	6.1	24.1	28.2		28
13	10316.0-17.0	9.7	1.1	1.0	14.1	33.9		29
14	10317.0-18.0	7.6	0.4	0.3	14.9	23.9		25
15	10318.0-19.0	6.5	0.3	0.2	11.8	41.1		16
16	10319.0-20.0	8.8	0.5	0.5	14.9	28.3		14
17	10320.0-21.0	7.2	0.7	0.6	16.2	41.1		40
18	10321.0-22.0	7.3	0.3	0.3	14.7	32.4		45
19	10322.0-23.0	7.5	0.4	0.3	17.5	28.8		48
20	10323.0-24.0	6.8	0.3	0.2	11.8	37.8		48
								55
		Avg. 8.0%						

Exhibit 11

GRAPHICAL PRESENTATION

WELL ECONOMICS - ASSUMING 640 ACRE DRAINAGE

McMILLAN-MORROW GAS AREA

	NET PAY	W. I. RECOVERABLE GAS	W. I. INCOME* GAS & DISTILLATE	TOTAL COST	WORKING INTEREST PROFIT
Pecos River Deep Unit #1	20'	5,995,125 MCF	$ 866,766	$310,000	$556,766
Pecos River Deep Unit #3	24'	7,194,150 MCF	$1,040,119	$310,000	$730,119
Harvey Yates-Singer "A" #1					
Morrow Zone	5'	1,500,000 MCF	$ 216,691	$310,000	(Loss) $ 93,309
Atoka Zone	5'	8,393,175 MCF	$1,213,472	$310,000	$903,472
Harvey Yates-Singer "C" #1	28'				

* Based upon gas price of 13¢/MCF after taxes, and distillate price of $2.43/bbl.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 13
CASE NO. 3252

Exhibit 13

WELL ECONOMICS - ASSUMING 640 ACRE DRAINAGE

McMILLAN-MORROW GAS AREA

	NET PAY	W. I. RECOVERABLE GAS	W. I. INCOME* GAS & DISTILLATE	TOTAL COST	WORKING INTEREST PROFIT
Pecos River Deep Unit #1	20'	5,995,125 MCF	$ 866,766	$310,000	$556,766
Pecos River Deep Unit #3	24'	7,194,150 MCF	$1,040,119	$310,000	$730,119
Harvey Yates-Singer "A" #1					
Morrow Zone	5'	1,500,000 MCF	$ 216,691	$310,000	(Loss) $ 93,309
Atoka Zone	5'				
Harvey Yates-Singer "C" #1	28'	8,393,175 MCF	$1,213,472	$310,000	$903,472

* Based upon gas price of 13¢/MCF after taxes, and distillate price of $2.43/bbl.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 13
CASE NO. 3252

Exhibit 13

WOLF PETRO LAB, INC.

DIAL EMERSON 6-9701
DIAL EMERSON 6-7171
2411 WEST 42ND STREET
P. O. BOX 643
ODESSA, TEXAS
79760

HYDROCARBON ANALYSIS

LABORATORY REPORT

Charge Harvey E. Yates
Test No. WPL-64-1011
Date of Run 9-22-64
Date Received 9-19-64

A Sample of Gas From Separator - Singer C-1

Secured from Morrow Formation

At _____ Secured by Marshall Morris

Purpose _____ Time _____ Date _____

Sampling Conditions: 600 psig @ 75° F

Sampled Downstream From Separator

CHROMATOGRAPH ANALYSIS

	Gas Vol. or Mol. %	Liquid Vol. %	GPM
Hydrogen Sulfide			
Carbon Dioxide	.57		
Air			
Nitrogen	1.31		
Oxygen			
Methane	91.07		
Ethane	4.93		
Propane	1.52		.42
Iso-Butane	.20		.07
N-Butane	.25		.08
Iso-Pentane	.07		.03
N-Pentane	.05		.02
Iso-Hexane			
N-Hexane			
Pentanes (2)			
Hexanes (2)	.03		.01
Heptane (2)			
TOTAL	100.00		.63

(1) and lighter
(2) and heavier

ANALYSIS INFORMATION

Volume of Sample _____ cc. @ _____ ° F
Sp. Gr. Residue _____ Vol. of Residue _____ cc.
Molecular Wgt. of Residue _____
Gal/lb. Mol. _____

VAPOR PRESSURE

_____ lbs. @ 100° F
Calculated _____ lbs. @ 100° F

GASOLINE CONTENT

26/70 Gasoline .09 G. P. M.
100.00 Propane .42 G. P. M.
Excess Butanes .12 G. P. M.
TOTAL .63 G. P. M.

SULPHUR DETERMINATION

Hydrogen Sulfide	H_2S	.062	grs/100 SCF
Mercaptans	RSH	.077	grs/100 SCF
Sulfides	RSR	.023	grs/100 SCF
Residual Sulphur	RSSR	.007	grs/100 SCF
Total Sulphur		.169	grs/100 SCF

OTHER DATA

BTU Content (Actual) Dry Basis (Calc.) 1068
Sp. Gravity (Actual) _____ (Calc.) .6131
A. P. I. Gr. (Actual) _____ (Calc.) _____

Run by: J. Wolf Checked by: J. Wolf Approved: J Wolf

Additional Data and Remarks

COPIES
5 - Mr. R. C. Norman
309 Carper Building
Artesia, New Mexico

1 - File

Exhibit 9

WOLF PETRO LAB, INC.

DIAL EMERSON 6-9701
DIAL EMERSON 6-7171
2411 WEST 42ND STREET
P. O. BOX 643
ODESSA, TEXAS
79760

HYDROCARBON ANALYSIS

LABORATORY REPORT

Charge Harvey E. Yates
Test No. WPL-641012
Date of Run 9-22-64
Date Received 9-19-64

A Sample of Gas From Well Head - Singer A-1

Secured from Morrow Formation

At _____ Secured by Marshall Morris

Purpose _____ Time _____ Date _____

Sampling Conditions: 50 psig @ 80° F

Liquid in Bomb

CHROMATOGRAPH ANALYSIS

	Gas Vol. or Mol. %	Liquid Vol. %	GPM
Hydrogen Sulfide			
Carbon Dioxide	.47		
Air			
Nitrogen	2.26		
Oxygen			
Methane	88.85		
Ethane	5.21		
Propane	1.84		.50
Iso-Butane	.26		.08
N-Butane	.47		.15
Iso-Pentane	.16		.06
N-Pentane	.17		.06
Iso-Hexane			
N-Hexane			
Pentanes (2)			
Hexanes (2)	.38		.16
Heptane (2)			
TOTAL	100.00		1.01

(1) and lighter
(2) and heavier

ANALYSIS INFORMATION

Volume of Sample _____ cc. @ _____ ° F
Sp. Gr. Residue _____ Vol. of Residue _____ cc.
Molecular Wgt. of Residue _____
Gal/lb. Mol. _____

VAPOR PRESSURE

_____ lbs. @ 100° F
Calculated _____ lbs. @ 100° F

GASOLINE CONTENT

26/70 Gasoline .42 G. P. M.
100.00 Propane .50 G. P. M.
Excess Butanes .09 G. P. M.
TOTAL 1.01 G. P. M.

SULPHUR DETERMINATION

Hydrogen Sulfide	H_2S	.071	grs/100 SCF
Mercaptans	RSH	.063	grs/100 SCF
Sulfides	RSR	.021	grs/100 SCF
Residual Sulphur	RSSR	.009	grs/100 SCF
Total Sulphur		.164	grs/100 SCF

OTHER DATA

BTU Content (Actual) Dry Basis (Calc.) 1091
Sp. Gravity (Actual) _____ (Calc.) .6373
A. P. I. Gr. (Actual) _____ (Calc.) _____

Run by: J. Wolf Checked by: J. Wolf Approved: J. Wolf

Additional Data and Remarks

COPIES
5 - Mr. R. C. Norman
309 Carper Building
Artesia, New Mexico

1 - File

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 8
CASE NO. 3252

Exhibit 8

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 10, 1968

EXAMINER HEARING

IN THE MATTER OF: Case No. 3252 being reopened pursuant to the provisions of Order No. R-2917-A, which order extended 640-acre spacing units for the McMillan-Morrow Gas Pool, Eddy County, New Mexico, for a period of 18 months.	Case No. 3252 (Reopened)

Before: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 3252.

MR. HATCH: Case 3252. Reopened. In the matter of Case Number 3252 being reopened pursuant to the provisions of Order No. R-2917-A, which order extended 640-acre spacing units for the McMillan-Morrow Gas Pool, Eddy County, New Mexico, for a period of 18 months.

(Whereupon Applicant's Exhibits 1 through 8 marked for identification.)

MR. LOSEE: O. J. Losee, appearing for applicant Harvey Yates and Yates Drilling Company, I have one witness, Mr. Gray.

(Witness sworn.)

DIRECT EXAMINATION

BY MR. LOSEE:

Q Will you state your name, residence and occupation.

A Ralph Gray, Artesia, New Mexico, I am consulting engineer.

Q Have you previously testified in this Case on May 26, 1965, and on the re-hearing or re-opening on July 19, 1966?

A Yes, sir.

Q At the first hearing, did the Commission issue an order for six hundred forty acre spacing to remain, in effect, for twelve months?

A Yes, sir.

Q And subsequently on July 19 of 1966, at the re-opened hearing did they continue that for an additional eighteen months?

A That's correct.

Q Now, since the Commission changed its rules to permit three hundred twenty acres standard spacing for Pennsylvanian Age gas wells, have you made a study of the Morrow fields that have been discovered in New Mexico, since January 1, of 1965, when three twenty spacing was authorized to determine how many of those fields have actually been spaced on three twenty and how many on larger spacing?

A Yes, I have made a study of this, I think there is one field included in this that was drilled prior to 1965, but has had six hundred forty acre rules adopted so I included that in this group. There are thirteen pools and out of this thirteen, eight of these pools have been put on six hundred forty acre spacing.

Q Do you know what spacing the other five pools are on?

A To my knowledge, they would be on state wide rules which would be three hundred twenty acre spacing.

Q Do you know why they are still on three hundred twenty?

A I don't have any knowledge, that operators have requested any change from the state wide rules on these.

Q Mr. Gray, please refer to the map, which is marked Exhibit 1 of the McMillan-Morrow Gas Pool, and point out the significant factors which are shown by this map.

A The main purpose of Exhibit 1, is to up-date the map, which we previously presented since the time of the last hearing the Yates Drilling Company, Pecos River Deep Unit Well Number 5, has been drilled in the northwest quarter of Section twenty two of nineteen south Range twenty seven east. This was a dry hole and it is indicated on this map. There is also a red symbol over the well designation. In addition to this, Cities Service have been drilling their State CJ Number 1 Well, which is located in the northeast quarter of Section twenty four of Township 20 south, Range twenty six east. This is down south of the Pecos River Deep Unit, and it is indicated by the red symbol on the map.

MR. UTZ: Is that twenty twenty six Section twenty four?

A Yes. Twenty, twenty six Section twenty four.

MR. UTZ: Okay.

A This well may still presently be drilling, I don't have the exact status of the well, at this time, but the well was drill-stem tested in the Morrow; it is my understanding that the well made a very few thousand cubic feet of gas, and it is either dry or non-commercial in the Morrow Sand.

Q This map also outlines what is the pool boundary as being the three sections, Section seven and eighteen and twenty, twenty-seven, and Section thirteen and twenty-twenty six, does it not?

A Yes, that's correct.

Q And the Pecos River Deep Unit Area actually separates the pools so that section thirteen is in the unit and the other two sections in the pool are outside of the unit?

A That's correct.

Q Mr. Gray, if you had been the person responsible for recommending the drilling of this Cities Service Well in Section twenty-four, and knowing what you do with respect to the McMillan-Morrow Pool, would you have recommended drilling the pool, if the spacing had been three hundred twenty acres?

A No, sir, I don't think it could have possibly been justified.

Q Please refer to what has been marked Exhibit 2 and state what is reflected by this Exhibit.

A Exhibit 2 is a Table which shows gas and distillate production for the Harvey E. Yates, Singer, C Number 1 Well, and the Yates Drilling Company, Pecos River, Deep Units Numbers 1 and 3 Wells, this Table also shows barrels of distillate per million cubic feet of gas produced. Also, cumulative gas and distillate figures are indicated for each

of these wells and this is shown on the lower portion of the Table. I would like to call your attention to the fact that Harvey Yates Singer A Number 1 Well has been shut in since the previous hearing and has not produced any gas or distillate.

Q I note in here, that the ratio of the distillate production to the gas production is declining. Does that tell you, as an engineer, anything with respect to the reservoir?

A Yes, a declining fluid to gas ratio is an indication of depletion in the reservoir, and the original distillate per mmc of ratio is around eight to nine for these wells. That has decreased to approximately three to four in most of these wells at the present time.

Q Please refer to what has been marked Exhibit 3, and state what is reflected.

A Exhibit 3, is a graph of gas production for the Pecos River Deep Unit Number 1 Well. This well has been producing at capacity during 1967, and reflects a production decline. The calculation of future recoverable gas from this well, was determined by extrapolating the production decline on this chart.

Q Please refer to Exhibit 4 and explain what is shown.

A Exhibit 4 is very similar information for the Pecos River Deep Unit Number 3 Well, and here again, this well has been producing at capacity and shows this significant decline. We have also calculated future recoverable gas by extrapolating this curve.

Q Refer to what has been marked as Exhibit 6, and explain what is reflected by the Exhibit.

A I believe you mean, Exhibit 5?

Q Exhibit 5, yes.

A Exhibit 5 shows bottom hole pressure information taken on the Harvey Yates Singer C Number 1 Well on April the 21st, 1967. This is a shut in bottom hole pressure measurement and shows that the pressure at a depth of ten thousand feet was twenty-one hundred seventy-eight p.s.i.

Q Mr. Gray, is this the only recent bottom hole pressure test on any of the Wells in the Pool?

A Yes, it is.

Q Now, if you will refer to Exhibit 6, being the data sheet for the Singer C-1.

A The Exhibit 6 shows bottom hole pressure and gas reserve data for the Singer C Number 1 Well. We used this decline in bottom hole pressure to establish the future recoverable oil and the -- I mean the future recoverable gas and

the estimated ultimate gas to be recovered from this well; the initial bottom hole pressure was forty-four hundred thirty five PSIG. The shut-in bottom hole pressure on April 21, 1967, was twenty-one hundred seventy eight PSIG. During this period to April 21, 1967, the well produced approximately two million eight hundred eighteen thousand four hundred ninety-four MCF of gas. This is equivilent to one thousand two hundred forty-nine MCF of gas production per pound pressure drop. The estimated remaining gas reserve is down to a pressure of one thousand PSI, which is the limiting line pressure of the purchaser. The bottom hole pressure -- I am sorry, the remaining gas reserves to one thousand PSI, is one million four hundred seventy one thousand, three hundred twenty two MCF of gas. Then the calculated estimated ultimate gas recovery is four million two hundred eighty-nine thousand eight hundred sixteen MCF.

Q Refer please to what has been marked Exhibit 7, being the pay out status of the wells within the pool and explain the pertinent facts shown by this Exhibit.

A Exhibit 7 lists the four wells which have produced gas in this pool and then the Pecos River Deep Unit and it shows the gross recoverable gas in MCF for each well. The working interest recoverable gas, the working interest recoverable distillate, the ultimate working interest income

from gas distillate, the total cost including total development and operational charges. These cost figures are average per well rather than being individual specific charges. And then, the last column shows the working interest, profit or loss, in the case of the Pecos River Deep Unit Number 1 Well, it is estimated that it will ultimately produce one hundred ninety-one thousand eight hundred fifty six MCF of gas. The ultimate income for gas and distillate will be twenty-two thousand two hundred thirty-five dollars, the total cost of the operations is three hundred ten thousand dollars so the ultimate loss is calculated at two hundred eighty-seven thousand seven hundred sixty-five dollars. In the case of the Pecos River Deep Unit Number 3 Well, the gross recoverable gas is estimated at one million forty-two thousand three hundred seventeen MCF, the ultimate working interest income from gas and distillate is calculated to be one hundred twenty-five thousand four hundred ninety-nine dollars, the total cost is three hundred ten thousand dollars. The net loss for the operation is one hundred eighty-four thousand five hundred one dollars, in the case of the Singer A Number 1 Well, this well has produced thirty three thousand five hundred fifty five MCF and has reached the point where no further production is indicated. The income from gas and distillate is

three thousand eight hundred ninety seven dollars, total cost is three hundred ten thousand dollars, net loss for the operation is three hundred six thousand dollars or three hundred six thousand one hundred three dollars. The Yates Singer C Number 1 Well is expected to recover four million two hundred eighty nine thousand eight hundred sixteen MCF of gas, and the income to the working interest is expect to be approximately five hundred twenty thousand eight hundred twenty eight dollars, a total cost is three hundred ten thousand this well should make a profit, a net profit of two hundred ten thousand eight hundred twenty-eight dollars so the over-all economy for the four wells is expected to net a loss of five hundred sixty seven thousand five hundred forty-one dollars.

Q From this Exhibit, Mr. Gray, do you have an opinion as to whether or not it is economical to develop this field on less than six hundred forty acres?

A No, certianly it is a very poor area as far as economics are concerned and the only hope that an operator has of making a profit is to hope of hitting an area that is connected sufficiently to drain six hundred forty acres.

Q Please refer to what has been marked Exhibit 8 and explain what is shown by this Exhibit?

A Exhibit 8 shows some information which was developed

to try to determine if there are any reasonable conclusions that any of these Wells could possibly drain six hundred forty acres. On the basis of some known porosity pressure information and other data which are used in making reservoir calculations of recoverable gas, we have assumed that the recoverable gas for this area will be four hundred sixty-nine MCF. per acre foot of pay. Then, if we assume that a well will drain six hundred forty acres, we have made some calculations to show the net thickness of pay which will have to be present in order to allow these wells to produce the amount of recoverable gas which has been shown in Exhibit Number 7. You will note that for the Pecos River Deep Unit Number 1 Well, the recoverable gas would provide that this well would have an average of point six four feet of pay over an area of six hundred forty acres. Of course, this is a very small figure in this case. The Pecos River Deep Unit Number 3 Well, would have to have a pay thickness of three point seven feet of pay. The Harvey-Yates-Singer A Number 1 Well would have to have a thickness of point one one feet of pay, the Harvey-Yates C Number 1 Well would have a pay thickness of fourteen point twenty nine feet of pay. Now, in order to be able to attach some significance to these figures, we have to relate these net pay figures to information that we have from core data on two of the wells. Out of the four Wells drilled and produced in this area two of them have been

cored. The Pecos River Deep Unit Number 1 Well, if we select by intervals that have permeability values that are one millidarcy or greater, the Number 1 Well would have the eleven feet of pay. The Pecos River Deep Unit Number 3 Well from core analyses shows that seven feet has permeability values greater than one millidarcy. Now Exhibit Number 8 shows that if the Pecos River Deep Unit Number 3 Well had an average thickness of three point four seven feet of pay this would account for a six hundred forty acre drainage and this feet figure is approximately one half of the amount of pay which the core analyses indicates in the well bore but certainly an average over six hundred forty acres of one half of the value shown in the particular well bore wouldn't be outside the realm of possibility for an average figure. Now, the Singer C Number 1 Well was not cored so we don't have any core data on this particular well, but the reserve figures indicate that this well would only have to have fourteen point twenty-nine feet of pay in order to drain six hundred forty acres. So when we compare this fourteen feet with the seven feet in the Pecos River Deep Unit Number 3 and the eleven feet of productive permeability in the Pecos River Deep Unit Number 1, then it certainly looks very probable that based on this information that the Singer C Number 1 Well, will drain at least six hundred forty acres.

Q Do you have an opinion if permeability is present in the mile throughout the six hundred forty acre surrounding the Singer C Number 1 Well, whether or not this Well will drain six hundred forty acres?

A Yes, I believe on the data that has been developed that it would probably drain six hundred forty acres in order to fit in with the gas reserves that we now calculate.

Q Do you know whether or not the operator projects any further wells in the field?

A As far as I know the operator has no intentions of doing any additional development.

Q For Exhibits 1 through 8 prepared by you are under your supervision?

A Yes, sir.

MR. LOSEE: We would offer Exhibits 1 through 8.

MR. UTZ: Without objection Exhibits 1 through 8 will be entered into the record of this case.

(Whereupon Applicant's Exhibits 1 through 8 were offered and admitted in evidence.)

MR. LOSEE: That's all at this time.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Gray, is your gas contract cut-off at a thousand

pounds?

A The purchaser it's my understanding that the purchaser is not obligated to take gas lower than a thousand pound line pressure. There are provisions in the contract, I think that if the purchaser or the operator elects to put in compressor facilities, after that time that certain things will be in effect in regard to price and so forth, but I do not believe that there is anything in the contract that obligates either party to do so; that is to put in compressor facilities.

Q Do you really think you are going to abandon these wells at one thousand pounds well head, of course, you are figuring --

A It is not an economical operation to this point and to go a few more pounds further, is not going to make a whole lot of difference. I don't think, either to the purchaser or to the operators.

Q Is your purchaser Southern Union?

MR. LOSEE: I think it is Phillip's.

MR. UTZ: It would have to be Phillip's or Southern Union.

A I believe it is Phillip's, my memory is a little bit hazy on that part, but I am pretty sure it is Phillips.

Q Then the way it stands you figure the four wells that are now drilled is all the development there is going to be

in that area until the wells are depleted?

A Well, the operators in the Pecos River Deep Unit, did drill a Number 5 Well since the last hearing. Of course it was dry. Cities Service has come down south of the unit and drilled its test well which we understand is non-commercial so I think that's going to about do it. I don't really think anybody in their right mind is going to want to drill any more wells in there very close.

MR. UTZ: Are there any other questions of the Witness? You may be excused.

(Witness excused.)

MR. UTZ: Statements in the Case, we will take the Case under advisement and the hearing is adjourned.

(Whereupon, Hearing was adjourned.)

* * * * * * * * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

Witness my Hand and Seal this 31st day of January, 1968.

Kay Embree
NOTARY PUBLIC

My Commission Expires:

November 19, 1971

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3752 heard on 1-30-68.

Examiner
New Mexico Oil Conservation Commission

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

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

P. O. BOX 2088
SANTA FE

January 16, 1968

Mr. A. J. Losee
Attorney at Law
Post Office Box 239
Artesia, New Mexico 88210

Re: Case No. 3252
Order No. R-2917-B
Applicant:
Harvey E. Yates

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC
Other

~~3708~~ 3252
Heard 1-10-68
Rec. 1-15-68.

Make permanent Order R-2916 for the McMillan-Morrow Gas pool. Since we have R-2916-A. This order should be R-2916-B I assume.

[signature]

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

July 27, 1966

Mr. A. J. Losee
Losee & Stewart
Attorneys at Law
Post Office Box 239
Artesia, New Mexico

DOCKET MAILED
Date 12/28/67

Re: Case No. 3252
Order No. R-2917-A
Applicant:

Harvey E. Yates & Yates Drlg.

Dear Sir:

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

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC _____
OTHER _____

Order No. R-3179-A, Temporary Rules, Vada-Pennsylvanian Pool, be adopted and made permanent for the above-described area or, in the alternative, that the above-described land be deleted from the Lane-Pennsylvanian and Middle-Lane Pennsylvanian Pools and the Vada-Pennsylvanian Pool be extended to include said lands therein.

CASE 3246: (Reopened)

In the matter of Case No. 3246 being reopened pursuant to the provisions of Order No. R-2935-A, which order extended special pool rules for the Mesa Queen Pool, Lea and Eddy Counties, New Mexico. All interested parties may appear and show cause why the gas-liquid ratio limitation of 5,000 cubic feet of gas per barrel of liquid hydrocarbons should not be reduced and why the special rules and regulations should not be discontinued.

CASE 3709: Application of Kerr-McGee Corporation for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause seeks the promulgation of special pool rules for the Akah Nez-Devonian Oil Pool, San Juan County, New Mexico, including a provision for 80-acre oil proration units.

CASE 3252 (Reopened)

In the matter of Case No. 3252 being reopened pursuant to the provisions of Order No. R-2917-A, which order extended 640-acre spacing units for the McMillan-Morrow Gas Pool, Eddy County, New Mexico, for a period of 18 months. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing units.

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 10, 1968
9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

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

CASE 3690: (Continued from the November 29, 1967, Examiner Hearing)

Application of Roger C. Hanks, Ltd., for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre spacing units and the establishment of 80-acre allowables for said 160-acre units.

CASE 3707: Application of William B. Barnhill for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of his Keohane Well No. 1 located in Unit N of Section 6, Township 20 South, Range 38 East, Lea County, New Mexico, to produce oil from the Skaggs-Grayburg and undesignated Blinebry pool through parallel strings of tubing.

CASE 3708: Application of BTA Oil Producers for special area rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special rules for that area of Lea County, New Mexico, including the Vada-Pennsylvanian, Lane-Pennsylvanian, and a portion of the Middle Lane-Pennsylvanian Pools, and described as follows:

TOWNSHIP 9 SOUTH, RANGE 33 EAST
Section 36: All

TOWNSHIP 9 SOUTH, RANGE 34 EAST
Sections 15 through 22, and 27 through 33: All

TOWNSHIP 10 SOUTH, RANGE 33 EAST
Sections 1, 2, 3, 10, 11 and 12: All
N/2 Section 13;
N/2 Section 14;
N/2 Section 15;

TOWNSHIP 10 SOUTH, RANGE 34 EAST
Sections 4 through 9: All
N/2 Section 16;
N/2 Section 17;
N/2 Section 18;

Applicant proposes the adoption of 160-acre proration units for the above-described area, or within one mile thereof, for the Bough "C" zone of the Pennsylvanian formation with each proration unit to be assigned an 80-acre proportional factor of 4.77 for allowable purposes.

Applicant proposes that the rules presently contained in Commission

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, CHAIRMAN OF THE BOARD
R. W. McFALL, PRESIDENT

SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

LA065 SSH210 1968 JAN 5 AM 11 (50)=

I. RWA017 PD=ROSWELL NMX 5 1125A MST=
=NEW MEXICO OIL CONSERVATION COMMISSION=
ATTN A L PORTER JR SANTA FE NMEX=

REFERENCE EXAMINER HEARING JANUARY 10, 1 68 CASE NUMBER 3252 (REOPENED) MCMILLAN MORROW GAS POOL ATLANTIC RICHFIELD CO HAVING INTEREST IN BOTH OF THE PRESENT PRODUCING MCMILLAN M RROW GAS POOL WELLS WE URGE THE COMMISSION TO MAKE PERMANENT THE PRESENT SPECIAL RULE FOR THIS POOL=
W P TOMLINSON ATLANTIC RICHFIELD CO=

Case 3252
Heard 8-19-66
Rec. 8-19-66

1. Grant Harvey E. Yates and Yates Drilling Co a ~~permanent~~ order for. R-2917. Extend 1 year.

[signature]

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 10, 1968

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

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TOWNSHIP 9 SOUTH, RANGE 33 EAST
Section 36: All

TOWNSHIP 9 SOUTH, RANGE 34 EAST
Sections 15 through 22, and 27 through 33: All

TOWNSHIP 10 SOUTH, RANGE 33 EAST
Sections 1, 2, 3, 10, 11 and 12: All
N/2 Section 13;
N/2 Section 14;
N/2 Section 15;

TOWNSHIP 10 SOUTH, RANGE 34 EAST
Sections 4 through 9: All
N/2 Section 16;
N/2 Section 17;
N/2 Section 18;

Applicant proposes the adoption of 160-acre proration units for the above-described area, or within one mile thereof, for the Bough "C" zone of the Pennsylvanian formation with each proration unit to be assigned an 80-acre proportional factor of 4.77 for allowable purposes.

Applicant proposes that the rules presently contained in Commission

Order No. R-3179-A, Temporary Rules, Vada-Pennsylvanian Pool, be adopted and made permanent for the above-described area or, in the alternative, that the above-described land be deleted from the Lane-Pennsylvanian and Middle-Lane Pennsylvanian Pools and the Vada-Pennsylvanian Pool be extended to include said lands therein.

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CASE 3709: Application of Kerr-McGee Corporation for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause seeks the promulgation of special pool rules for the Akah Nez-Devonian Oil Pool, San Juan County, New Mexico, including a provision for 80-acre oil proration units.

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BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 3252
Order No. R-2917-B

APPLICATION OF HARVEY E. YATES AND YATES
DRILLING COMPANY FOR THE CREATION OF A
NEW GAS POOL AND FOR SPECIAL POOL RULES,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 10, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 16th day of January, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That by Order No. R-2917, dated June 8, 1965, temporary Special Rules and Regulations were promulgated for the McMillan-Morrow Gas Pool, Eddy County, New Mexico.

(3) That by Order No. R-2917-A, dated July 27, 1966, said temporary Special Rules and Regulations were continued in full force and effect for an additional period of 18 months.

(4) That pursuant to the provisions of Order No. R-2917-A, this case was reopened to allow the operators in the subject pool to appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

(5) That the evidence establishes that one well in the McMillan-Morrow Gas Pool can efficiently and economically drain and develop 640 acres.

(6) That the Special Rules and Regulations promulgated by Orders Nos. R-2917 and R-2917-A have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool.

(7) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Orders Nos. R-2917 and R-2917-A should be continued in full force and effect until further order of the Commission.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the McMillan-Morrow Gas Pool, promulgated by Orders Nos. R-2917 and R-2917-A, are hereby continued in full force and effect until further order of the Commission.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

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

ir/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3252
Order No. R-2917
NOMENCLATURE

APPLICATION OF HARVEY E. YATES
AND YATES DRILLING COMPANY FOR
THE CREATION OF A NEW GAS POOL
AND FOR SPECIAL POOL RULES,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on May 26, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 8th day of June, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicants, Harvey E. Yates and Yates Drilling Company, seek the creation of a new gas pool for Morrow production in Eddy County, New Mexico, and the promulgation of special rules and regulations, including a provision for 640-acre spacing units.

(3) That the Hondo Singer "C" Well No. 1, located in Unit F of Section 18, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico, has discovered a separate common source of supply which should be designated the McMillan-Morrow Gas Pool; that the vertical limits of said pool should be the Morrow zone of the Pennsylvanian formation; and that the horizontal limits of said pool should be all of Section 13, Township 20 South,

Range 26 East, and all of Sections 7 and 18, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico.

(4) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 640-acre spacing units should be promulgated for the McMillan-Morrow Gas Pool.

(5) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(6) That special rules and regulations should be established for a temporary period to expire one year from the date that a pipeline connection is first obtained for a well in the pool; that during this temporary period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(7) That this case should be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the McMillan-Morrow Gas Pool, at which time the operators in the subject pool should appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

(8) That the first operator to obtain a pipeline connection for a well in the McMillan-Morrow Gas Pool should notify the Commission in writing of such fact, and that the Commission should thereupon issue a supplemental order designating an exact date for reopening this case.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production, is hereby created and designated the McMillan-Morrow Gas Pool, with vertical limits comprising the Morrow zone of the Pennsylvanian formation, and horizontal limits comprising all of Section 13, Township 20 South, Range 26 East, and all of Sections 7 and 18, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico.

(2) That temporary Special Rules and Regulations for the McMillan-Morrow Gas Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
McMILLAN-MORROW GAS POOL

RULE 1. Each well completed or recompleted in the McMillan-Morrow Gas Pool or in the Morrow formation within one mile thereof, and not nearer to or within the limits of another designated Morrow gas pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 640 acres, more or less, consisting of a governmental section.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Lands Survey, or the following facts exist and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a governmental section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.

(d) In lieu of paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent

to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located no nearer than 1650 feet to the outer boundary of the section and no nearer than 330 feet to any governmental quarter-quarter section line.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the McMillan-Morrow Gas Pool or in the Morrow formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Artesia District Office of the Commission in writing of the name and location of the well on or before July 1, 1965.

(2) That each well presently drilling to or completed in the McMillan-Morrow Gas Pool or in the Morrow formation within one mile thereof shall receive a 320-acre allowable until a Form C-102 dedicating 640 acres to the well has been filed with the Commission.

(3) That this case shall be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the McMillan-Morrow Gas Pool, at which time the operators in the subject pool may appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

(4) That the first operator to obtain a pipeline connection for a well in the McMillan-Morrow Gas Pool shall notify the Commission in writing of such fact, and that the Commission will thereupon issue a supplemental order designating an exact date for reopening this case.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell

JACK M. CAMPBELL, Chairman

Guyton B. Hays

GUYTON B. HAYS, Member

A. L. Porter, Jr.

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

esr/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3252
Order No. R-2917-A

APPLICATION OF HARVEY E. YATES
AND YATES DRILLING COMPANY FOR
THE CREATION OF A NEW GAS POOL
AND FOR SPECIAL POOL RULES,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 19, 1966, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 27th day of July, 1966, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That by Order No. R-2917, dated June 8, 1965, temporary Special Rules and Regulations were promulgated for the McMillan-Morrow Gas Pool, Eddy County, New Mexico.

(3) That pursuant to the provisions of Order No. R-2917, this case was reopened to allow the operators in the subject pool to appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

(4) That the applicants have not presented sufficient evidence concerning the reservoir characteristics of the McMillan-Morrow

Gas Pool to enable the Commission to determine that said temporary Special Rules and Regulations should be made permanent.

(5) That the temporary Special Rules and Regulations for the McMillan-Morrow Gas Pool, promulgated by Order No. R-2917, should be continued in effect until further order of the Commission in order to allow the operators in the subject pool sufficient time to gather additional information concerning the reservoir characteristics of the pool.

(6) That this case should be reopened at an examiner hearing in January, 1968, at which time the applicants and all interested parties should appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

IT IS THERREFORE ORDERED:

(1) That the temporary Special Rules and Regulations for the McMillan-Morrow Gas Pool, promulgated by Order No. R-2917, are hereby continued in full force and effect until further order of the Commission.

(2) That this case shall be reopened at an examiner hearing in January, 1968, at which time the applicants and all interested parties may appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

GUYTON B. HAYS, Member

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

esr/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 5/27/65

CASE 3252 Hearing Date 9 am 5/26/65
DSN ◉ SF

My recommendations for an order in the above numbered cases are as follows:

Creating a new Morrow gas Pool &
Enter an order approving
temporary 640-acre spacing units
for said pool. Name of pool
is to be McMillan-Morrow
gas Pool. Pool rules should
be copied after Indian Basin
rules and should operate for
one year after the first well in the
pool is connected. Horizontal
limits of pool should be
T 20 S R 26 E
Sec 13: All
T 20 S R 27 E
Sec 7: All
Sec 18: All
Vertical limits should be the Morrow
zone of the Pennsylvanian formation

Ken Durrett

LAW OFFICES
LOSEE AND STEWART
CARPER BUILDING - P.O. DRAWER 239
ARTESIA, NEW MEXICO

A. J. LOSEE
EDWARD B. STEWART

AREA CODE 505
746-3508

22 April 1965

Case 3252

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Porter:

Enclosed herewith are three copies of the Application of Harvey E. Yates and Yates Drilling Company for the Creation of a New Gas Pool and for Temporary Special Rules and Regulations, Eddy County, New Mexico.

Please set this Application down for hearing before an examiner at the next regular scheduled hearing, and advise me the date of such setting.

Very truly yours,

A. J. Losee

AJL:rh
Enclosures

DOCKET MAILED
Date 5-12-65

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF :
HARVEY E. YATES AND YATES DRILLING COMPANY :
FOR THE CREATION OF A NEW GAS POOL AND FOR : NO. 3282
TEMPORARY SPECIAL RULES AND REGULATIONS, :
EDDY COUNTY, NEW MEXICO :

APPLICATION

COMES Harvey E. Yates and Yates Drilling Company by their attorneys, Losee and Stewart, and state:

1. That a common source of supply of gas was discovered by applicants in the following described wells located in Eddy County, New Mexico, to-wit:

(a) Yates Drilling Company - Pecos River Deep Unit No. 3 Well located 1980 feet from the north line and 660 feet from the east line of Section 13, Township 20 South, Range 26 East, N.M.P.M.

(b) Harvey E. Yates - Hondo-Singer C Well No. 1 located 1980 feet from the north and west lines of Section 18, Township 20 South, Range 27 East, N.M.P.M.

(c) Harvey E. Yates - Hondo-Singer A Well No. 1 located 660 feet from the south and east lines of Section 7, Township 18 South, Range 27 East, N.M.P.M.

2. That the common source of supply of gas discovered by the above mentioned wells should be designated as the McMillan Morrow-Pennsylvanian Gas Pool and should at least include the following lands in Eddy County, New Mexico, to-wit:

Township 20 South, Range 27 East, N.M.P.M.,

Section 7: All
Section 18: All

Township 20 South, Range 26 East, N.M.P.M.,

Section 13: All

3. That the geological, engineering and economical data now available to applicants indicates that this common source of supply can be efficiently and economically drained on 640-acre gas proration units.

4. That applicants request the promulgation of temporary special rules and regulations for the McMillan Morrow-Pennsylvanian Gas Pool and a copy of such proposed rules and regulations is attached hereto and by reference made a part hereof.

5. The names and addresses of all operators directly or diagonally offsetting the proposed McMillan Morrow-Pennsylvanian Gas Pool are as follows:

(a)	Sohio Oil Company	Box 3161 Midland, Texas
(b)	Carper Drilling Company, Inc.	200 Carper Building Artesia, New Mexico
(c)	Superior Oil Company	218 W. Illinois Midland, Texas
(d)	Pure Oil Company	Box 729 Roswell, New Mexico
(e)	Leonard Oil Company	Box 708 Roswell, New Mexico
(f)	Gulf Oil Corporation	Box 669 Roswell, New Mexico.

DOCKET MAILED
Date 5-12-65

6. The creation of this new gas pool and the temporary establishment of 640-acre spacing and proration units

for this common source of gas supply will be in the interest of conservation, will prevent waste and correlative rights will be protected.

WHEREFORE, applicants pray the orders of the Commission as follows:

1. That this matter be set for hearing before an examiner duly appointed by the Commission and that due notice be given thereof as required by law.

2. That after such hearing an order be entered creating the McMillan Morrow-Pennsylvanian Gas Pool, temporarily establishing 640-acre spacing and proration units for the common source of gas supply and promulgating special rules and regulations for the McMillan Morrow-Pennsylvanian Gas Pool, Eddy County, New Mexico.

3. And for such other relief as may be just in the premises.

HARVEY E. YATES

YATES DRILLING COMPANY

By 

A. J. Losee of
Losee and Stewart
Attorneys at Law
P. O. Drawer 239
Artesia, New Mexico

Attorneys for Applicants

SPECIAL RULES AND REGULATIONS FOR THE
McMILLAN MORROW-PENNSYLVANIAN GAS POOL

RULE 1. Each well completed or recompleted in the McMillan Morrow-Pennsylvanian Gas Pool or in the Morrow sand of the Pennsylvanian formation within one mile of the McMillan Morrow-Pennsylvanian Gas Pool and not nearer to or within the limits of another designated Pennsylvanian Pool shall be spaced, drilled, operated and prorated in accordance with the special rules and regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the McMillan Morrow-Pennsylvanian Gas Pool shall be located not closer than 1650 feet to the outer boundary of the section and not closer than 330 feet to any governmental quarter-quarter section line; provided, however, that any well drilled to or completed in said Pool as of the date of the order is hereby excepted from the requirements of this rule.

RULE 3. The Secretary-Director shall have authority to grant exceptions to Rule 2 without notice and hearing where an application therefor has been filed in due form and the necessity for the unorthodox location is based on topographical conditions or is occasioned by the recompletion of a well previously drilled to another horizon.

Applicants shall furnish all offset operators with a copy of the application to the Commission and shall stipulate to the Commission that proper notice has been furnished to all such operators. The Secretary-Director may

approve the application upon receipt of written waivers from all offset operators or if, after a period of 20 days, no offset operator has entered an objection to the proposed unorthodox location.

RULE 4. Each well completed or recompleted in the McMillan Morrow-Pennsylvanian Gas Pool shall be located on a standard proration unit consisting of a single governmental section being a legal subdivision of the United States Public Lands Survey. For the purposes of these rules, a standard proration unit shall consist of 632 through 648 contiguous surface acres.

RULE 5. The Secretary-Director shall have authority to grant an exception to Rule 4 without notice and hearing where an application has been filed in due form and where the unorthodox size or shape of the unit is necessitated by a variance in the legal subdivision of the United States Public Lands Survey, or the following facts exist and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a single governmental section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.

(d) In lieu of Paragraph (c) of this rule, the

applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

Docket No. 15-65

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 26, 1965

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

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

CASE 3250: Application of Amerada Petroleum Corporation for special rules for the Goodwin-Abo Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Goodwin-Abo Pool, in Sections 30 and 31, Township 18 South, Range 37 East, Lea County, New Mexico, including a provision for 80-acre proration units.

CASE 3251: Application of Continental Oil Company for a waterflood project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Rattlesnake Dakota Pool, San Juan County, New Mexico, by the injection of water into the upper and middle zones of the Dakota formation, through three injection wells in Sections 12 and 13, Township 29 North, Range 19 West.

CASE 3252: Application of Harvey E. Yates and Yates Drilling Company for the creation of a new gas pool and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Pennsylvanian gas pool comprising all of Section 13, Township 20 South, Range 26 East, and all of Sections 7 and 18, Township 18 South, Range 27 East, Eddy County, New Mexico, and the promulgation of special pool rules for said pool, including a provision for 640-acre spacing and proration units.

CASE 3253: Application of Kennedy Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Square Lake Pool by the injection of water into the Grayburg and San Andres formations through one or two proposed injection wells, the DOB A Well No. 3 located in Unit M of Section 21 and the Kennedy Federal Well No. 3 to be located in Unit C of Section 28, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the SW/4 SW/4 of Section 21 and the N/2 NW/4 of Section 28 as a waterflood buffer zone offsetting a capacity-type waterflood to the West and South.

CASE 3254: Application of Dixon & Yates Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Loco Hills Pool by the injection of water into the Grayburg formation through one well located in Unit D of Section 14, Township 18 South, Range 29 East. Applicant further seeks the designation of the N/2 NW/4 of said Section 14 as a waterflood buffer zone offsetting a capacity-type waterflood to the North and West.

CASE 3255: Application of Socony Mobil Oil Company, Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the E-K Queen Unit Area comprising 2,895 acres, more or less, of Federal and State lands in Township 18 South, Ranges 33 and 34 East, Lea County, New Mexico.

CASE 3256: Application of Socony Mobil Oil Company, Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the E-K Queen Pool, Lea County, New Mexico, in its E-K Queen Unit Area by the injection of water into the Queen formation through twenty-six wells in Sections 13, 14, 23, and 24, Township 18 South, Range 33 East, and Sections 18 and 19, Township 18 South, Range 34 East.

CASE 3257: Application of Skelly Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Skelly Penrose "B" Unit Area comprising 2,612 acres, more or less, of State and fee lands in Townships 22 and 23 South, Range 37 East, Lea County, New Mexico.

CASE 3258: Application of Midwest Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State "C" Well No. 1 located in Unit K of Section 32, Township 13 South, Range 34 East, Lea County, New Mexico, to produce oil from the Upper and Lower Pennsylvanian formations through parallel strings of tubing.

CASE 3259: Application of Midwest Oil Corporation for the creation of two new oil pools, and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of two new oil pools for Pennsylvanian production for its dually completed State "C" Well No. 1 located in Unit K of Section 32, Township 13 South, Range 34 East, Lea County, New Mexico, and for the establishment of special pool rules, including a provision for 80-acre proration units.

CASE 3225 (Readvertised from April 7, 1965 Examiner Hearing):

Application of Harold L. Runnels for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to directionally drill his Millard Eidson B Well No. 3, the surface location which is 660 feet from the South line and 1980 feet from the East line of Section 26, Township 16 South, Range 35 East, Shoebar Field, Lea County, New Mexico. Applicant proposes to set a whipstock at 6800 feet and directionally drill in a northwesterly direction bottoming said well at a true vertical depth of approximately 10,400 feet in the Permo-Pennsylvanian pay at the point not closer than 330 feet to the North and West lines of the NW/4 SE/4 of said Section 26.

Docket No. 18-66

DOCKET: EXAMINER HEARING - TUESDAY - JULY 19, 1966

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

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

CASE 3428: Application of Continental Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Eumont-Hardy Unit Area comprising 1,930 acres, more or less, of State, Federal and Fee lands in Township 20 South, Ranges 37 and 38 East, and Township 21 South, Ranges 36 and 37 East, Lea County, New Mexico.

CASE 3429: Application of Continental Oil Company for two waterflood projects, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Yates, Seven Rivers, and Queen formations, Eumont Pool, through 28 wells in its Eumont Hardy Unit. Applicant further seeks the approval of an offsetting cooperative waterflood project to be conducted on its SEMU Eumont lease by the injection of water into two wells in Section 25, Township 20 South, Range 37 East, all in Lea County, New Mexico.

CASE 3430: Application of Tenneco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Hess Hills Unit Area comprising 16,801 acres, more or less, of State, Federal and Fee lands in Townships 23 and 24 South, Ranges 23 and 24 East, Eddy County, New Mexico.

CASE 3431: Application of Sinclair Oil & Gas Company for a dual completion. Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the dual completion of its W. H. Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, to produce oil from the Drinkard Oil Pool through 2-inch tubing and to produce oil from the Blinebry Oil Pool through the casing-tubing annulus.

CASE 3432: Application of Gulf Oil Corporation for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle in the well-bore marginal oil production from the Arrowhead Drinkard Pool and an undesignated Blinebry Pool in its Harry Leonard (NCT-C) Well No. 11 located in Unit K of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico.

CASE 3252 (Reopened):

In the matter of Case No. 3252 being reopened pursuant to the provisions of Order No. R-2917, which order established 640-acre spacing units for the McMillan-Morrow Gas Pool, Eddy County, New Mexico, for a period of one year after first pipeline connection in the pool. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing units.

CASE 3433: Application of Skelly Oil Company for an exception to Rule 104, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104 C I of the Commission Rules and Regulations to permit the production of oil from two wells located less than 660 feet apart in the West Dollarhide-Drinkard Pool, Lea County, New Mexico. Applicant's Mexico "L" Well No. 18 located 1656 feet from the North line and 990 feet from the East line of Section 5, Township 25 South, Range 38 East, is presently completed in said pool, and applicant proposes to recomplete its Well No. 2, located 1980 feet from the North line and 660 feet from the East line of said Section 5 in said pool, with the assignment of a single 40-acre allowable to both wells.

CASE 3259 (Reopened):

In the matter of Case No. 3259 being reopened pursuant to the provisions of Order No. R-2929, which order established 160-acre spacing units for the Nonombre-Upper Pennsylvanian and Nonombre-Lower Pennsylvanian Pools, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pools should not be developed on 40-acre or 80-acre spacing units.

CASE 3434: Application of Shell Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the dual completion (conventional) of its South Wilson Deep Unit Well No. 2 located in Unit J of Section 33, Township 21 South, Range 34 East, Lea County, New Mexico, to produce oil from an undesignated Bone Springs Oil Pool and to produce gas from the Grama Ridge-Morrow Gas Pool through parallel strings of tubing.

CASE 3435: Application of Tidewater Oil Company for a capacity allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the assignment of a capacity allowable to its GO State "J" Well No. 1 located in Unit H of Section 7, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico. Said well offsets the waterflood project operated by Great Western Drilling Company on its Malmar Unit in said Section 7.

CASE 3436: Application of Leonard Latch for a gas injection project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a gas injection project in the Empire Yates-Seven Rivers Pool, Eddy County, New Mexico, by the injection of gas into the Yates formation through his Berry "A" Wells Nos. 11 and 26, located in Units K and O, respectively, of Section 24, Township 17 South, Range 27 East.

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

June 8, 1965

Mr. A. J. Losee
Losee & Stewart
Attorneys at Law
Box 239
Artesia, New Mexico

DOCKET MAILED
Date 7-8-65

Re: Case No. 3252
Order No. R-2917
Applicant:

HARVEY E. YATES & YATES DRILLING COMPANY

Dear Sir:

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

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC _____
OTHER _____

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

July 21, 1965

COPY

DOCKET MAILED

Date_____

Yates Drilling Company
309 Carper Building
Artesia, New Mexico

Attention: Mr. Hugh W. Parry

Re: Supplemental Order
of the Commission

Gentlemen:

Reference is made to your letter of July 2, 1965, where you advise that your Pecos River Deep Unit Well No. 3, located in Section 13, Township 20 South, Range 26 East, Eddy County, New Mexico was connected to the gas gathering facilities of Phillips Petroleum Company and actual deliveries of gas commenced June 18, 1965.

Pursuant to the provisions of Order No. R-2917, Case No. 3252 is hereby ordered to be reopened at a hearing to be held in July, 1965, at which time the operators in the McMillan-Morrow Gas Pool may appear and show cause why said pool should not be developed on 320-acre spacing units.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

cc: Mr. M. L. Armstrong
Oil Conservation Commission - Artesia, New Mexico

CASE FILE 3252

ROTARY AND CABLE TOOL DRILLING CONTRACTORS

YATES DRILLING COMPANY
309 CARPER BUILDING – DIAL SHERWOOD 6-3558

ARTESIA, NEW MEXICO

"AIR DRILLING SPECIALISTS"

S. P. YATES, PRESIDENT
J. O. MILLER, VICE-PRES. & GEN. MGR.
HUGH W. PARRY, SEC.-TREAS.

July 2, 1965

3252 (Reopened)

State Of New Mexico
Oil Conservation Commission
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.
Secretary

Re: Case No. 3252
Order No. R-2917

Gentlemen:

In accordance with caption order, this letter is to notify you that the Pecos River Deep Unit # 3 well, located in Section 13, Township 20 South, Range 26 East, was connected to Phillips Petroleum Company line and actual deliveries of gas commenced June 18, 1965.

Yours very truly,

Hugh W. Parry

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3252
Order No. R-2917
NOMENCLATURE

APPLICATION OF HARVEY E. YATES
AND YATES DRILLING COMPANY FOR
THE CREATION OF A NEW GAS POOL
AND FOR SPECIAL POOL RULES,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on May 26, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 8th day of June, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicants, Harvey E. Yates and Yates Drilling Company, seek the creation of a new gas pool for Morrow production in Eddy County, New Mexico, and the promulgation of special rules and regulations, including a provision for 640-acre spacing units.

(3) That the Hondo Singer "C" Well No. 1, located in Unit F of Section 18, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico, has discovered a separate common source of supply which should be designated the McMillan-Morrow Gas Pool; that the vertical limits of said pool should be the Morrow zone of the Pennsylvanian formation; and that the horizontal limits of said pool should be all of Section 13, Township 20 South,

Range 26 East, and all of Sections 7 and 18, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico.

(4) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 640-acre spacing units should be promulgated for the McMillan-Morrow Gas Pool.

(5) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(6) That special rules and regulations should be established for a temporary period to expire one year from the date that a pipeline connection is first obtained for a well in the pool; that during this temporary period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(7) That this case should be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the McMillan-Morrow Gas Pool, at which time the operators in the subject pool should appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

(8) That the first operator to obtain a pipeline connection for a well in the McMillan-Morrow Gas Pool should notify the Commission in writing of such fact, and that the Commission should thereupon issue a supplemental order designating an exact date for reopening this case.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production, is hereby created and designated the McMillan-Morrow Gas Pool, with vertical limits comprising the Morrow zone of the Pennsylvanian formation, and horizontal limits comprising all of Section 13, Township 20 South, Range 26 East, and all of Sections 7 and 18, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico.

(2) That temporary Special Rules and Regulations for the McMillan-Morrow Gas Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
McMILLAN-MORROW GAS POOL

RULE 1. Each well completed or recompleted in the McMillan-Morrow Gas Pool or in the Morrow formation within one mile thereof, and not nearer to or within the limits of another designated Morrow gas pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 640 acres, more or less, consisting of a governmental section.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Lands Survey, or the following facts exist and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a governmental section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.

(d) In lieu of paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent

to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located no nearer than 1650 feet to the outer boundary of the section and no nearer than 330 feet to any governmental quarter-quarter section line.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the McMillan-Morrow Gas Pool or in the Morrow formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Artesia District Office of the Commission in writing of the name and location of the well on or before July 1, 1965.

(2) That each well presently drilling to or completed in the McMillan-Morrow Gas Pool or in the Morrow formation within one mile thereof shall receive a 320-acre allowable until a Form C-102 dedicating 640 acres to the well has been filed with the Commission.

(3) That this case shall be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the McMillan-Morrow Gas Pool, at which time the operators in the subject pool may appear and show cause why the McMillan-Morrow Gas Pool should not be developed on 320-acre spacing units.

(4) That the first operator to obtain a pipeline connection for a well in the McMillan-Morrow Gas Pool shall notify the Commission in writing of such fact, and that the Commission will thereupon issue a supplemental order designating an exact date for reopening this case.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

GUYTON B. HAYS, Member

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

S E A L

esr/

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 26, 1965

EXAMINER HEARING

IN THE MATTER OF:

APPLICATION OF HARVEY E. YATES AND YATES DRILLING COMPANY FOR THE CREATION OF A NEW GAS POOL AND FOR SPECIAL POOL RULES, EDDY COUNTY, NEW MEXICO

Case No. 3252

BEFORE:

DANIEL S. NUTTER

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case Number 3252.

MR. DURRETT: Application of Harvey E. Yates and Yates Drilling Company for the creation of a new gas pool and for special pool rules, Eddy County, New Mexico.

MR. LOSEE: Mr. Examiner, A. J. Losee of Losee & Stewart, appearing on behalf of the applicant. We have one witness, Mr. Gray.

* * *

R A L P H L. G R A Y, the witness, having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOSEE:

Q State your name, please.

A Ralph L. Gray.

Q What is your residence and occupation, Mr. Gray?

A My residence is Artesia, New Mexico; my occupation, consulting engineer.

Q Have you previously testified before and had your qualifications accepted by this Commission as an expert witness?

A Yes, sir.

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

MR. NUTTER: Yes, sir.

MR. LOSEE: Mr. Gray, would you, in a few words,

briefly summarize the application of Mr. Yates and the Yates Drilling Company.

A The applicant is requesting the designation of a new gas pool, to be called the McMillan Morrow Penn Gas Pool. Also the applicant is requesting special pool rules be adopted providing for 640-acre spacing units and for drilling of wells no closer than 1,650 feet from the outer boundaries of the unit, nor closer than 330 feet to any Government quarter-quarter subdivision line.

Q Please refer to what has been marked Exhibit 1, and explain what it portrays.

A Exhibit 1 is a map which shows the location of the deep gas wells in this general area that have been completed, and also the map shows the proposed pool boundary, which will include all of Sections 7 and 18 in Township 20 South, Range 27 East, and all of Section 13 in Township 20 South, Range 26 East. Within this pool boundary there are presently three Morrow gas wells that are completed.

Q Still referring to this map, is one of these gas wells completed within the boundary of a unit agreement?

A Yes, the Yates Drilling Company Pecos River Deep Unit Number 3 well in Section 13 is included in the Pecos River Deep Unit. This unit also has another gas well completed, the Pecos River Deep Unit Number 1 well, and it is in Section 28

of Township 19 South, Range 27 East.

Q The applicant does not propose to include its Deep Unit Well Number 1 within the boundaries of this proposed pool, is that correct?

A That is correct.

Q Please refer to what has been marked Exhibit 2, and explain what it reflects.

A The map, Exhibit 1, does not show any ownership, so Exhibit 2 is an ownership map of this same area, and it is just merely being presented so the Commission will have a map showing ownership in this area.

Q Now, Mr. Gray, your exhibits numbered 3, 4, 5 and 6 are entitled "Well Data on the Four Wells" shown on your Exhibit 1. Would you please refer to each of these exhibits and elaborate on what portion you think is necessary to explain this application.

A Exhibit 3 is a chart showing pertinent well data on the Pecos River Deep Unit Number 1 Well. This is not included in the proposed pool area, but since it was within the Pecos River Deep Unit we are submitting this for the Commission's information. Since it is outside of the pool area I won't elaborate on any part of it at this time.

Exhibit 4, which is well data for the Pecos River Deep Unit Well Number 3, shows the well is located in Section

13 of Township 20 South, 26 East. The well is producing from open hole from 10,256 to 10,392, with 5½-inch casing set at 10,256 feet. On initial potential this well flowed 3,933,000 MCF per day. It is producing from Morrow sands. The two pay intervals are from 10,254 to 10,262, and 10,304 to 10,324. This has a total of 24 feet of net gas pay. Multipoint break pressure tests were conducted on January 12, 1965. On 72-hour shut-in the wellhead pressure was 30951 PSI, and on one of the flow rates at the rate of 3,933,000 cubic feet per day the wellhead pressure was 2,384 PSI. This well had an absolute open flow of 9,980,000 cubic feet per day. Reservoir temperature, 172 Farenheit. Original reservoir pressure, 4,138 PSI at 10,250 feet.

Exhibit 5 is also a well data sheet for the Harvey E. Yates-Singer A Number 1 well. This is located in Section 7 of Township 20 South, Range 27 East. This is a dually completed well; it is producing from the Morrow zone, from open hole from 10,295 feet to 10,408 feet. The Atoka zone is perforated from 9,945 feet to 9,953. A packer is set between the two zones and they are produced individually. On a multi-point back pressure test from the Morrow zone, after 72 hours shut-in the wellhead pressure was 2,970 PSI, and one of the flow rates at 343 MCF per day, the wellhead pressure was 2,146 PSI. This well had absolute open flow of 575 MCF per day;

reservoir temperature, 170 degrees; original reservoir pressure, 3,618 PSI. I won't comment on the Atoka zone, inasmuch as we are not including this zone in our proposed pool rules.

Exhibit 6 is a well data sheet for the Harvey E. Yates-Hondo Fisher C Number 1 Well located in Section 18, Township 20 South, Range 27 East. This well is producing from open hole from 10,246 feet to 10,399 feet. The pay intervals are from 10,328 feet to 10,340 feet, and 10,350 feet to 10,391 feet. On a multipoint back pressure test after 72 hours the shut-in wellhead pressure was 3,307 PSI. One of the flow rates was producing at a rate of 3,000,465 cubic feet of gas per day with wellhead pressure of 2,356 PSI. Absolute open flow, 7,750 MCF per day. Reservoir temperature, 169 degrees. Original reservoir pressure, 4,435 PSI at 1,050 feet. On a recent test this well produced 10,000,000 cubic feet of gas per day. I might explain the apparent discrepancy between the original absolute open flow of 7,750,000 cubic feet as compared to a recent test in which the well flowed 10,000,000. It has been our experience with these Morrow gas wells that usually there is some degree of damage to the bore holes because of the mud in the formation, and it's a usual thing that these wells will show an improvement in producing characteristics and performance as time goes by, and they have a better chance to clean up.

Q Are these wells all shut-in at this time?

A Yes. A contract has been made with Phillips Petroleum Company, and it is my understanding that they are laying a line at the present time, and expect the wells to be connected possibly within the next month.

Q Your exhibits 7, 8, and 9 set forth an analysis of the gas from these three wells proposed to be included in the pool. Would you explain what these analyses show.

A These analyses show that gas from all three of these wells is comparable--has similar characteristics, similar analyses. Methane content falls between 88 and 92% It is typical Morrow gas.

Q Now, your Exhibits 10 and 11 are core analyses. Would you refer to these and explain what is shown by these core analyses.

A Exhibit 10 shows a core analysis on the Pecos River Deep Unit 1 Well. It just shows a fairly erratic permeability condition, which is more or less typical of the Morrow. Exhibit 11 is a core analysis of the low producing zone in the Pecos River Deep Unit Well Number 3. The upper pay zone wasn't cored in this well. This lower zone has an average porosity of 8%. The permeabilities as indicated on the core analysis are of a low order. All of them fall below ten millidarcies. However, here I would like to mention one fact--that as a general rule the Morrow sand is fractured, and quite often

these fractures are not indicated on core analyses, so that actually the core analysis doesn't always represent the true conditions existing in the sands.

Q Please refer to what has been marked Exhibit 12, and explain what it portrays.

A Exhibit 12 is a cross-section. The line of the cross-section is shown on the small vicinity map on this exhibit, and it extends from the south end of the area and is tied into the Pan American Adams Penn Unit Number 1, which is a dry hole, and then extends in a northeasterly direction through the Pecos River Deep Well Number 3, the Harvey Yates-Fisher C-1, the Harvey Yates-Fisher A-1 and up through the Harvey Yates-Federal Number 1 Deep, which is not a Morrow well but is completed into the Wolfcamp, and then finally into the Pecos River Deep Unit Number 1 Well.

The cross-section depicts geological structural conditions. We have shown a correlation line on the top there which is the correlation point or source of the Morrow limestone. It doesn't necessarily reflect the top of the Morrow; it's possibly down into the Morrow but it is a good correlating point and is used because of that reason. The Chester is shown on the cross-section. The red coloring on each of these well locations indicates the pay intervals. You will note that there are generally two pay intervals--one in the--well, it

would probably be about the middle of this entire section from the Morrow lime down to the Chester, and in addition there is a pay interval in the lower part of these sands. This exhibit also shows the structural condition of the top of the Morrow limestone, which is contoured in this vicinity map; and about all the structure indicates is that it is just a stratigraphic condition, and actually there are no structural features present there.

Q Please refer to Exhibit 13 entitled "Well Economics," assuming the 640-acre spacing, and explain what is reflected by this exhibit.

A Exhibit 13 was prepared in order to show the expected economics over the life of these wells, assuming that each well will drain 640 acres. The wells are shown in the first column there. The second column shows estimated net pay thickness in each well, and you will note that this varies from five feet in the Fisher A Number 1 Well to a maximum of 28 feet in the Fisher C Number 1 Well. The third column shows the amount of working interest recoverable gas from each of these wells, and this varies from 1,000,500,000 cubic feet to a maximum of 8,000,393,175 cubic feet for the Harvey Yates-Fisher C Number 1. The next column shows value or working interest income from gas and distillate. The minimum shown there is $216,691.00 expected to be recovered from the Morrow

zone in the Fisher A Number 1, and the maximum from the Fisher C Number 1 is $1,213,472.00. The next column shows the expected total cost from each of these wells. This includes the original cost for drilling the wells, the cost for lease equipment and also includes expected operating cost over the life of the wells. This figure amounts to $310,000.00 per well. The last column shows expected working interest profit. In the case of the Pecos River Deep Unit Number 1 Well, the estimated profit is $556,766.00, which is a little less than two for one return on the expense for that well--it has to be considered a rather poor return.

In the case of the Pecos River Deep Unit Well Number 3, the expected working interest profit is $730,119.00, as compared to a cost of $310,000.00, and this is slightly more than a two for one return. Certainly on a 320-acre drainage you could just expect to barely recover the expenses.

In the case of the Fisher A Number 1 Well, it is expected that this well will have an actual loss of $93,309.00. The Fisher C Number 1 Well shows an expected profit of $903,-472.00, which is approximately a three for one return on the investment, assuming 640-acre drainage.

I think what this indicates is that certainly you couldn't develop this area on a 320-acre spacing unit basis, because the return just would not be profitable.

Q Do you have an opinion as to whether one well in this proposed pool area into the Morrow sand will drain 640 acres?

A Well, we have quite a bit of knowledge at this time now on gas recovery from Morrow gas sand in many other areas, and I would say that from what we know at this time, that you could reasonably expect one well to drain 640 acres.

Q I believe you have previously stated your opinion as to the economics requiring this size spacing unit?

A Yes, sir.

Q Mr. Gray, the proposed pool rules were submitted with the application in this case. Do you know from what area or what previous order of this Commission those rules were basically adopted?

A I think it was the Indian Basin or Indian Hills area.

Q Did you prepare Exhibits 1 through 13, or were they prepared under your direction?

A Yes, sir.

MR. LOSEE: We will offer Exhibits 1 through 13 in evidence.

MR. NUTTER: Applicant's Exhibits 1 through 13 will be admitted in evidence.

MR. LOSEE: I think that is all of the applicant's

case at this time.

MR. NUTTER: Are there any questions of Mr. Gray? ... Mr. Gray, this oil well on your cross-section, being the Harvey Yates Federal Number 1D, was a drill stem test taken on the Morrow Zone on that well?

A Only on a part of the Morrow. The well was tested in the upper Morrow zone only, and had no shows, but it wasn't tested in the lower part.

Q What was the interval in the test? Do you have that information there?

A I'm sorry, we don't. We can furnish it if you would like.

Q I imagine that will probably be in the well file. We will take administrative notice of the well file in this case. It appears that the development on the log is pretty fair in the upper Morrow?

A Well, of course actually no attempt has been made to complete in that zone. I wouldn't say actually that the well would not produce from the zone, but it didn't look encouraging on the drill stem test.

Q Without that well to tie in this southern area with the Pecos River Deep Number 1, is it your opinion that all four of these gas wells are producing from the same reservoir?

A I think it is likely that all four are producing

from the same reservoir. Of course the Morrow sand--the accumulation of gas in the sand is due to stratigraphic conditions rather than structure, so in that type of thing we can expect these little erratic conditions to exist, and you might temporarily run out in one particular area, but it is my opinion that actually they are all tied in together--probably they're the same reservoir.

Q Now, the proposed rules here today are for--or, the proposal is for temporary 640 rules. What is your proposal as far as duration of the rules?

A I think the reason the rules were presented as temporary rules is that that is the usual procedure in these cases, of asking for larger units than state-wide rules provide. I think it was presented just because of that reason, more than anything else. Is that true, Jerry?

MR. LOSEE: Yes.

MR. NUTTER: Of your own knowledge, do you know whether additional wells are being contemplated in this immediate area or not?

A I can't answer that. I really don't know.

Q When is it anticipated that Phillips will have connections to these wells?

A Within a month.

MR. NUTTER: Are there any further questions of

Mr. Gray?

MR. DURRETT: Mr. Gray, did I understand correctly that the proposed rules would provide for 1,650-foot locations to the section line?

A Yes, sir.

Q And there now are three wells in the pool, and one is what--330 from the line, and one is 660 and one 1,980 to the nearest line, is that correct?

A Yes--the Fisher A Number 1.

Q Is it 330 from the east line of 7?

A I believe 330--let me check to be sure. The Pecos River Deep Unit is 1,980 feet from the north, 660 from the east of that section. The Fisher A Number 1 well is 160 from the south and east line in Section 7. The Fisher C Number 1 well is 1,980 from the north and west lines, so actually--

Q There isn't any 330?

A No, the closest is 660.

Q Am I also correct in assuming that you do propose exceptions by this order for existing wells?

A Yes, that's correct.

Q Do you feel that this pool has been defined as far as the vertical limits, or I should say horizontal limits of the pool, is concerned?

A No, sir, I don't think it has been very well defined

yet.

Q Do you think there is a possibility that Section 6 of 26 is productive?

A You said 6 of 26?

Q I'm speaking of the section directly offsetting the Harvey E. Yates-Fisher Well Number 1, to the east.

A That would be Section 6 of 20-27. I think there is a good chance that that would be productive.

Q Do you feel that the Harvey E. Yates-Fisher A Well Number 1 will be draining gas from that acreage at this time, when it goes on the line?

A That it will be draining from Section 6?

Q Yes--if it's going to drain 640 acres in a lateral area.

A Since it's located in the very southern part of that section--

MR. NUTTER: You mean Section 7?

MR. DURRETT: Excuse me--I'm speaking of Section 8, which is the section directly offsetting the Harvey E. Yates-Fisher Well Number 1 to the east. Do you feel that that section is productive of gas from the Morrow, or is there a possibility of it, or a probability of it?

A Well, we're getting on close to the edge of that thing in there. I think that was the poorest well of all the

wells completed, and we could only give that about 5% of pay in the Morrow sands, so apparently we're getting real close to the edge of the field--at least, that's the appearance there, since the pay section is getting real thin; and also, productivity of the well was low compared to other wells, so I would say we're getting close to a questionable area there, which may or may not be productive.

Q If it was productive, will your Yates-Fisher A Well Number 1 drain gas from that section?

A Yes, sir, I would say it would.

Q How do you propose that the person who wants to drill in this section--assuming someone wants to do so--would protect his correlative rights from drainage from this well, if he couldn't get closer than 1,650 feet to the section line?

A Of course the spacing of wells is kind of an arbitrary thing to some extent. We know we don't drain these reservoirs in squares; the permeability of the pattern probably is real irregular; and I'm quite sure drainage from the well bore outward is not a regular pattern--probably wouldn't be a regular circle. These patterns--one operator might drain another operator in a particular part of the area, but on the other hand, the other operator is going to drain part of him in another area, so that it's the kind of thing that usually balances out. For example, if an operator would drill a well

'way in the northwest part of Section 8, the chances are that he's going to drain part of the unit under Section 7, and the well on Section 7 is going to drain part of the unit under Section 8, so it's kind of a trade-about situation there.

Q Under your interpretation, if he drilled a well 1650 feet from the west line of Section 8, he in all probability would have a dry hole, is that correct?

A Would you repeat that?

Q Under your interpretation, if he drilled a well 1650 feet from the west line of Section 8, he would in all probability have a dry hole in the Morrow, is that correct?

A I would really hesitate to make that statement.

Q You do feel that Section 8 is productive of gas from the Morrow pool?

A No, I'm just saying that I would really hesitate to guess. In other words, there just isn't enough information available to--it would actually be a guess; there's not any data we have so that I can say either way, that it would or would not make a well, because we just don't have enough information.

Q What about Section 17, directly south of Section 8? What would be your opinion concerning this section?

A Well, there again I think it's an unknown, and I would hesitate to say.

Q Do you feel that the Fisher A Well Number 1 will drain part of Section 17, the way it is situated, assuming--

A Assuming that it's productive, yes, sir.

Q Moving over to your Pecos River Deep Unit Well Number 3, how close is it to the north line there?

A 1980 feet.

Q So any well drilled north of Section 13 would be able to get equally as close to the line as that well?

A Yes.

Q Now, Section 13, where the Pecos River Deep Unit Number 3 is located, and Section 18 directly to the east--is that ownership common or is it not so?

A That's diversified ownership there.

Q Well, of course Section 13 is within the Pecos River Deep Unit?

A Oh yes.

Q And Section 18 is outside of the unit?

A There are some common ownerships. Of course, the ownership would be somewhat different.

Q Would you--if you can't answer this question just tell me so: Would the applicants in this case, Mr. Yates and Yates Drilling Company, have an objection to a provision in the order that would be issued establishing that 640-acre spacing, that offset wells could be drilled an equal distance

to a section line from any existing well completed in the pool?

A If I understand your question right, you mean that on the adjoining acreage the operator would be permitted to drill a well the same distance to the lease line as the one adjoining it?

Q Yes, sir, that's correct.

A I don't think that would be a very favorable plan, because that would be an instance where that would put one well 660 feet from the line. You would have two gas wells located real close together, each of which is capable of draining much larger areas, and from the standpoint of draining the reservoir, I think that would be a rather poor spacing arrangement.

Q What about from the standpoint of correlative rights?

A I would think the operator would probably want to drill in a different part of the section, and he would probably drain gas in a different portion of the unit. To answer your question as to whether the applicants would object to such a rule--I don't know.

MR. NUTTER: Can you answer that, Mr. Losee?

MR. LOSEE: With reference--first, before I answer the question as best I can, let me refer to this Exhibit 2, which is the ownership, and point out that actually all of Section 8 has an ownership that is common to the south half

of 7, from my own knowledge; and the west half of Section 17, both in 20-27, has an ownership common to that in Section 18. Now, Harvey Yates is the operator, but his partners in all of this acreage are Leonard Oil Company, Franklin, Aston & Fair, and S. P. Yates and Martin Yates, III. As far as the unit is concerned, this well in Section 13--everything to the north and west is within the confines of that unit, and it is a fully participating unit. From the operator's standpoint, he would surely have no objection to greater flexibility in the location of wells than we have put in our proposed rules. We would surely have no objection to making it 330 rather than 1650. I think the correlative rights problem is probably, as to the two wells you are referring to, protected by virtue of the ownership of the leases.

MR. DURRETT: He wouldn't drill there at any rate, as far as you know now?

MR. LOSEE: I don't know of any plans to drill there now.

MR. NUTTER: I think that will answer the question. Thank you. Are there any further questions of Mr. Gray? ... You may be excused. Does anyone have anything else to offer in Case Number 3252? ... We will take the case under advisement. We will take a fifteen-minute recess.

* * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ELIZABETH K. HALE, Notary Public and Court Reporter, do hereby certify that proceedings in the foregoing case were taken and transcribed by me, and that the foregoing is a true and complete transcript to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, my hand and seal of office this 7th day of June, 1965.

Elizabeth K. Hale
Notary Public

My commission expires
May 23, 1968.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3282 heard by me on 5/26, 1965.

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