

CASE 3016: Application of TEXACO
INC. for creation of new oil pool
and temporary pool rules.

CASE No.

3016

Application,
Transcripts,
Small Exhibits
ETC.

VACUUM UPPER PENNSYLVANIAN FIELD

LEA COUNTY, NEW MEXICO

RESERVOIR DATA SHEET

Average Porosity, Percent	5.0 (Log Analysis)
Average Permeability	--- (Unknown)
Connate Water Saturation, Percent	25 (Estimated)
Average Net Pay, Feet	33 (Log Analysis)
Oil Gravity, °API	41.2
Solution GOR, Cubic Feet per Barrel	1213 (Estimated)
Saturation Pressure, Psi	3700 (Estimated)
Formation Volume Factor, .STB/Res. Bbl.	1.57 (Estimated)
Initial Reservoir Pressure Psi	3811
Reservoir Temperature, °F	132
Cumulative Oil Production 3-1-64	93,021
Current Oil Production, Bbls. Feb. 1964	15,613
Present Number of Completions 3-1-64	3
Well Density, Acres per Well	80
Developed Area, acres	240
Producing Mechanism	Solution Gas

3016

Exhibit No. 4

ECONOMIC ANALYSIS

A. Cost to drill and complete a triple (Average of 12 wells - Range \$221,000 to \$700,000)	\$331,000
B. Artificial lift equipment (3 hydraulic per well)	\$ 63,000
C. Lifting Cost per barrel	\$ 0.45
D. Taxes per barrel	\$ 0.24
E. Net interest, percent	0.875
F. Sales value per barrel of oil including gas	\$ 3.46
G. Net value of oil per barrel	\$ 2.42
H. Reserves necessary to pay out the well, Bbls.	160,800
I. Estimated reserves, 40-acre spacing	155,150
J. Loss on 40-acre spacing	\$ 18,500
K. Estimated Reserves, 80-acre spacing	310,300
L. Profit on 80-acre spacing	\$356,900

3016

Case 3014

Heard 5-12-65

Rec. 5-12-65

1 Grant Texaco request to make
permanent the rules of the vacuum
- Upper Penn. pool. R-2697.
Pool is virtually developed.

W. L. R.

State of New Mexico
Oil Conservation Commission



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

May 19, 1965

Re: Case No. 3016
Order No. R-2697-B
Applicant:
TEXACO INC.

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

A. L. PORTER, Jr.
Secretary-Director

Hobbs OCC x
 Artesia OCC
 Aztec OCC
 OTHER

ECONOMIC ANALYSIS
SINGLE COMPLETION

A.	Cost to drill and complete a single	\$130,000
B.	Artificial lift equipment	\$ 25,000
C.	Lifting cost per barrel	\$ 0.45
D.	Taxes per barrel	\$ 0.24
E.	Net interest, percent	0.875
F.	Sales value per barrel of oil including gas	\$ 3.46
G.	Net value of oil per barrel	\$ 2.42
H.	Reserves necessary to pay out the well, Bbls.	64,000
I.	Estimated reserves, 40 acre spacing, Bbls.	44,000
J.	Loss on 40 acre spacing	\$ 48,520

3016

VACUUM UPPER PENNSYLVANIAN COMPLETION DATA

3016

Operator & Lease	Well No.	Date	Interval	Treatment	Status & Choke	Tubing Press.	Oil	Water	GOR	Hours	Capacity BOPD	Cum. Prod. 3-1-64	Remarks
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TEXACO Inc.

State NM "O" 11 (NCT-1)	3-30-63	10331-10386	A 500	F 20/64"	175	54	0	2660	24	0	768	Abdn.
State NM "O" 17 (NCT-1)	6-18-63	10130-10140	A 500	F 15/64"	125	222	0	907	24	145	35,899	
State NM "O" 18 (NCT-1)	8-1-63	10130-10140	A 500	F 18/64"	---	265	25	1321	24	201	37,848	
State NM "Q" 4 (NCT-1)	11-19-63	10069-10107	A 500	F 3/4"	100	336	0	1410	20	203	18,506	

93,021

DRAFT

JMD/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CF Subj. _____

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

CASE No. 3016

Order No. R-2697-A

APPLICATION OF TEXACO INC.
FOR SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
May 12, 1965, at Santa Fe, New Mexico, before Examiner
Elvis A. Utz.

NOW, on this _____ day of May, 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 by Order No. R-2697, dated May 8, 1964, temporary
Special Rules and Regulations were promulgated for the Vacuum-
Upper Pennsylvanian Pool, Lea County, New Mexico.

(3) That pursuant to the provisions of Order No. R-2697,
this case was reopened to allow the operators in the subject pool
to appear and show cause why the Vacuum-Upper Pennsylvanian Pool
should not be developed on 40-acre spacing units.

(4) That the evidence establishes that one well in the
Vacuum-Upper Pennsylvanian Pool can efficiently and economically
drain and develop 80 acres.

(5) That the Special Rules and Regulations promulgated by Order No. R-2697 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 oil in the pool.

(6) That 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 Order No. R-2697 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 Vacuum-Upper Pennsylvanian Pool promulgated by Order No. R-2697 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.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 25, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco, Inc. for the
creation of a new oil pool and for
temporary pool rules, Lea County, New
Mexico

Case No. 3016

BEFORE: ELVIS A. UTZ, EXAMINER

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

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PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 25, 1964

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of Texaco, Inc. for the)
creation of a new oil pool and for)
temporary pool rules, Lea County,)
New Mexico.)

CASE NO. 3016

BEFORE: ELVIS A. UTZ, EXAMINER

TRANSCRIPT OF HEARING

MR. UTZ: Next case will be 3016.

MR. DURRETT: Application of Texaco, Inc., for the
creation of a new oil pool and for temporary pool rules, Lea
County, New Mexico.

MR. WHITE: If the Examiner please, Charles White, of
Gilbert, White & Gilbert, Santa Fe, appearing on behalf of the
applicant. We have one witness to be sworn.

(Witness sworn)

CARL L. WHIGHAM, JR.,
called as a witness herein, having been first duly sworn, was
examined and testified as follows:



DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your name for the record, please?

A My name is Carl L. Whigham.

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

A I am employed by Texaco, Inc., in Midland, Texas, as Division Exploration Engineer.

Q Are you familiar with the subject application?

A Yes, sir, I am.

Q And have you previously testified before the Examiner or the Commission in your capacity as a petroleum engineer?

A Yes, sir, I have.

Q What does Texaco seek by the application?

A In this case, Texaco requests that temporary field rules be established for the Upper Pennsylvanian Oil Pool in Lea County, New Mexico, providing for 80 acre spacing.

Q All right.

MR. WHITE: If the Examiner please, in our application, we referred to the two subject leases as being in Range 35 East. It should have been Range 34 East. I believe that is not covered within the call of the publication. With the amendment we would like to proceed, however, with the case, and then, have it continued and readvertise the publication.

MR. DURRETT: We would have to hear it again, Mr. White.



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Let me suggest this: Would you have any objection to continuing the case to the next examiner hearing, or it would have to be the next examiner hearing that has not yet been advertised. I think it will be the next one. Just advertise it and place it on that docket and then if there are no objections, we would just state that the record will be incorporated from this hearing today.

MR. WHITE: That will be fine.

MR. UTZ: If there are ~~no~~ objections, then, you will be available to rehear the case.

MR. WHITE: That's correct.

MR. UTZ: Now, is that true just for this one case?

MR. WHITE: That's correct.

MR. UTZ: Let the record show that Case 3016, we will receive testimony in that case today, readvertise the case and - - continue and readvertise the case to the April 29th hearing, at which time we will recall the case and rehear it if we have any objections to the testimony in the record today.

MR. WHITE: May the record also show our amendment referring to Range 34 instead of Range 35 East.

MR. UTZ: That amendment will be taken care of in the readvertisement.

Q (By Mr. White) Will you refer to Exhibit Number One and explain your ownership plat?

A Exhibit Number One is a lease ownership map, showing the



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various operators in the Upper Pennsylvanian Pool, Oil Pool. The Upper Pennsylvanian completions are denoted in blue. There are three wells presently producing from this oil pool. One other well has been tested, and was originally completed in the Pennsylvanian. That would be the State of New Mexico "O" NCT-1 Well No. 11. That well has subsequently been abandoned in the Pennsylvanian.

Q Does it also show the offset operators?

A Yes. The offset operators to the various completions in this field are shown.

Q And what is your AA Prime, will that be tied in later in an exhibit?

A Yes. AA Prime denotes a cross section that will be shown later.

Q Now, will you refer to and explain Exhibit Number Two?

A Exhibit Number Two is a tabulation of the four wells that have been completed in the Upper Pennsylvanian Oil Pool. It may be noted that all of these completions are on Texaco leases. Well No. 11, 17 and 18 are on State of New Mexico "O" NCT-1 lease and Well Number Four is on State of New Mexico "C" lease.

The completion intervals are shown, ranging from 10,069 feet down to 10,386 feet. Each of the zones were lightly treated with 500 gallons of acid and each completion resulted in a flowing well.

Q Are any of the wells producing water?



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A One well initially tested water. That was Well Number 18. It initially tested 205 barrels of oil and 25 barrels of water per day. None of the other wells tested any water.

MR. UTZ: Mr. Whigham, is there some reason you didn't show the Number 11 is a producer on your Exhibit One?

A Yes, sir. That well has been abandoned. That is shown under remarks in Exhibit Number Two, after producing 768 barrels of oil.

MR. UTZ: I see.

A It ceased producing from this reservoir.

MR. UTZ: P & A then?

A Yes, sir.

MR. UTZ: All right.

A It has been plugged in that particular reservoir.

Q (By Mr. White) Will you refer and explain your cross section, Exhibit Three?

A Exhibit Number Three is a cross section from north to south across the center of the field. It shows State of New Mexico "Q" Well No. 4, being the northernmost well. The second well on the cross section is the State of New Mexico "O" NCT-1 No. 18, and the third well, the southernmost well, is No. 17. It may be noted that the Upper Pennsylvanian, as shown on this cross section, is correlative across the field.

The completion intervals in each one of the wells is



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indicated by the solid blocked in section in the center of the log.

Q Do you have any reserve data that would be available?
That would be Exhibit Four.

A Yes, we do. Exhibit Number Four is presented primarily to show the average reservoir properties as they are known at the present time.

The average porosity is shown to be approximately five percent. Permeability is presently unknown. Connate Water Saturation is estimated to be approximately 25 percent. The average net pay in these completions is approximately 33 feet. The gravity of the oil is 41.2 degrees API. The solution gas-oil ratio is estimated to be 1213 cubic feet per barrel. The saturation pressure is estimated as 3,700 PSI. The formation volume factor is estimated to be 1.57. stock tank barrels per reservoir barrel. The initial reservoir pressure is estimated to be 3,611 PSI with a reservoir temperature of 132 degrees Fahrenheit. Cumulative Oil Production from the Upper Pennsylvanian Oil Pool was 93,021 as of March 1, 1964, and the current production is 15,613 barrels as produced in February of 1964.

As stated previously, the number of completions presently producing are three, and these wells are spaced on a density of 80 acres per well. So, at the present time, a total of 240 acres are developed. The producing mechanism in this field is solution gas drive.



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Q All right. Now, will you refer to and explain your analysis on Exhibits Five and Six?

A Exhibits Number Five and Six are economic analyses showing the cost to drill and complete triple completed wells and single completion wells and it shows that the Pennsylvanian reservoir could not be developed on 40 acre spacing. Exhibit Number Five shows the average cost to drill and complete a triple well to be \$531,000.00. The artificial lift equipment would amount of \$63,000.00, and then, the various costs are listed and it is shown that a total of 160,000 barrels of reserves would be necessary to pay out this type of completion. However, under 40 acres the estimated reserves are 155,150 barrels. So, this would result in a net loss of 18,500.00 if these three reservoirs were developed on 40 acre spacing. Also shown are the figures that result from an analysis of 80 acre spacing. And in this instance, the estimated reserves would be 310,300 barrels and the profit for triple completion on 80 acre spacing would be \$356,900.00.

Exhibit Number Six is probably more significant, because it shows the economic analysis of singly completing an Upper Pennsylvanian well on 40 acres. It shows that the cost of a well of this type would be \$130,000.00 to drill and complete. And an additional \$25,000.00 for artificial lift equipment. Using the same cost data, it can be seen that the reserves necessary to pay out a single completion would be 64,000 barrels. However, it



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is estimated that under 40 acres, the recoverable reserves would approximate 44,000 barrels. So, the loss on 40 acres would be approximately \$48,820.00 per well. It can be seen also that the reserves under 80 acres would be twice the amounts shown under Item I, would be 88,000 barrels and that would be quite profitable for a single completion.

Q Would it be economical to develop the pool on multiple completions on 40 acre spacing?

A Only way that that would be possible is to develop the Upper Pennsylvanian as one or two other zones. That would be developed on either 40 acres or 80 acres, and would be profitable enough to carry the Upper Pennsylvanian completion.

Q Well, is it possible to develop the pool on a 40 acre spacing by multiple completions at the present time?

A Would you repeat the question, please?

Q Is it possible to develop the pool at the present time on 40 acre spacing?

A No, it would not be, because it would necessitate on alternate 40 acres to drill and complete single completion wells and these would be unprofitable.

Q Why would it be necessary?

A Because the other reservoirs, or the three major reservoirs, in this depth interval, are developed on 80 acre spacing as provided by the rules. That would be the Abo, the



Wolfcamp and the Devonian. These three reservoirs are already developed on 80 acres, so it would be necessary to drill a single Upper Pennsylvanian well in the alternate 40 acre tracts.

Q Which would be uneconomical?

A That's correct.

Q What special rules, temporary rules, do you recommend?

A The rules that we recommend would be comparable to those established after a hearing by Socony Mobil.

Q Is that OCC Number 2997?

A That's correct. Order Number R-2677 was established following this hearing, and the rules, the temporary rules, that Texaco proposes for the Upper Pennsylvanian Oil Pool would be similar to those established in this Order R-2677.

Q Are there any exceptions?

A Yes, sir, there are two exceptions. One of them is the limiting gas-oil ratio in Order R-2677. The limiting gas-oil ratio was established at 6,000 to one. This high of a limit would not be necessary for the Upper Pennsylvanian and we would recommend a limit of 2,000 to one. One other exception would be in Rule No. Four of Order No. R-2677, wherein it was specified that a well would be located within 150 feet of the center of the quarter-quarter governmental section. We would recommend that this be increased to 200 feet of the center of a quarter-quarter section for the Upper Pennsylvanian Oil Pool:



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MR. WHITE: At the time we filed the application for this time for the trial of the case, we were under the notice of Order 1-107.

MR. UTZ: Would you do so.

Q (By Mr. White) Now, in your opinion, would the granting of this application prevent waste and preserve productive rights?

A Yes, sir. It appears at the present time that the establishment of these rules would prevent economic waste and it would also provide for an orderly development of the Upper Pennsylvanian reservoir and it would provide for evenly spaced wells throughout the field, which would result in efficient and economical drainage of the reservoir.

Q Were these exhibits prepared by you or under your direction or supervision?

A Yes, sir, they are.

Q At this time, we offer Exhibits One through Six.

MR. UTZ: Without objection the exhibits, One through Six, will be entered into the record of this case.

MR. WHITE: That concludes our testimony on direct.

* * * *



CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Whigham, have you cored any of the Upper Penn in any of these four wells?

A Mr. Examiner, I don't have the data available with me, but I would think that the Upper Pennsylvanian has not been cored in any of these wells, because the reservoir engineering section in our Hobbs District did not include any core data in Exhibit Number Four. I feel certain that that would have been included if it had been available.

Q This is a new pool, is it not?

A Yes, sir, it is separate from the Lower Pennsylvanian Oil Pool previously established.

Q Isn't it usually pretty standard procedure to core a new pool?

A Yes, sir, normally it would be most desirable. As you know, this particular area was under development in about five different reservoirs at the same time, and actually, the Pennsylvanian was not considered to be one of the more productive reservoirs. So, it possibly did not receive as much consideration as some of the other more prolific reservoirs did.

Q What do you intend to do? This is a temporary order, incidentally, that you are requesting, is it not?

A Yes, sir, it would be our recommendation that data be

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collected and that the case is reopened to a later date to show cause why these rules should not be continued.

Q What does Mexico intend to do in the way of gathering information to show no more drainage in this pool?

A Wherever the Upper Pennsylvanian reservoir appears to be prospective, we will conduct whatever tests are possible at that time, both drillstem tests, pressure tests, production tests, and if it can be economically justified, I am sure that our reservoir engineer would like very much to obtain cores in the Upper Pennsylvanian.

Q I would judge from your Exhibit Four that you actually do not have cores since your porosity is a log analysis and permeability is unknown, connate water is estimated, and those are the things that you will get from cores; is that correct?

A Yes, sir, that's correct.

Q Now, why do you need a 200 foot tolerance rather than 150 foot tolerance?

A Mr. Examiner, the main reason for changing that one provision in the previous order mentioned for the Lower Pennsylvanian, is that it might be possible at a later date to complete the Upper Pennsylvanian along with either the Vacuum Abo, the Vacuum Wolfcamp or Vacuum Devonian. The rules for these three reservoirs specify a location within 200 feet of the center of a quarter-quarter section.

Q I see. Now, in the event the Commission approves a temporary



80 acre spacing order, what acreage would you dedicate to each of these three wells that are now producing in this pool?

A The northernmost well would have 80 acres dedicated to it, consisting of the South Half of the Southeast Quarter of Section 25. Well No. 18 would have dedicated to it 80 acres, consisting of either the North- - Correction, the South Half of the Northeast Quarter, or it could have dedicated to it the 40 acres in the tract on which the well is located and the 40 acres lying immediately to the south. However, the former dedication would probably provide for more evenly spaced development. Actually, I am unable to state at this time exactly which 80 acres should be dedicated to Well No. 17, but it would probably be the South Half of the Southwest Quarter of Section 36.

Q Since Number 11 was P & A in the Upper Penn, that 40 acre tract should not be a part of the pool established, should it?

A Probably not, because as mentioned previously, the Upper Pennsylvanian is no longer productive in that immediate vicinity. It probably is not productive in the Southwest Quarter of the Northwest Quarter either, but the Upper Pennsylvanian reservoir has not been penetrated at that location and some anomaly might exist whereby it would be productive.

Q Has this pool be established?

A Yes.

Q Already?



A Yes. It was established in the previously mentioned Order No. R-2677.

Q Do you happen to know what those limits are?

A No horizontal limits were mentioned, if my memory is correct.

Q Well, I am sure our records will show that. I was just interested in knowing at this time whether, or not we had included that in our nomenclature.

A I don't believe we could, Mr. Examiner. That hasn't been established yet.

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

MR. DURRETT: Yes, I have a question.

CROSS EXAMINATION

BY MR. DURRETT:

Q Mr. Whigham, I am not too clear on this Exhibit Number Five. I wonder if you would refer to that. I believe when you are starting out here with your Item A, the cost to drill and complete a triple, that you are talking about total cost of a triple completion, that is an average cost?

A That's correct.

Q All right, sir. When you get down to Item No. I, which is estimated reserves, 40 acre spacing, now are you talking about the estimated reserves for all three zones, or are you only



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talking about the estimated reserves for the Pennsylvanian?

A We are talking about the estimated reserves under 40 acres for all three reservoirs.

Q Are you talking about estimated reserves from all three reservoirs on 40 acres only?

A Yes, that's correct.

Q Well, any other reservoirs that you could possibly consider, I believe you have testified here to earlier today, are on 80 acre spacing, are they not?

A That's correct. And it was also mentioned previously that the Upper Pennsylvanian reservoir on 40 acres could be included in a triple completion where the other two reservoirs were sufficiently productive, or prolific to help support this other completion.

Q Well, any time you complete your Upper Penn with any of the other zones that we have discussed here, they are going to be an 80 acre spacing and receive an 80 acre allowable?

A That's correct. In that case, that completion would very probably be profitable. However, it would also then be necessary to move over to the next 40 acres and drill a single completion, and that would not be profitable.

Q I see. Because you can't triple because you have used up your other 40 acres out of 80?

A Yes, that is correct, and it might also be added that the



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Pennsylvanian has been completed in these other triply completed wells wherever possible. It can be considered to be none-productive in these other triply completed wells.

Q Well, at any rate, referring to the Exhibit, that is not really a true picture there then, as far as saying that your 155,150 acre reserves, you would have to consider - - I mean now talking about the economic analysis from a triple completion standpoint, you have got to consider that you can contribute 80 acres?

A That is correct. The information presented in Exhibit No. Five is correct to the best of my knowledge, however, it does not depict the actual situation as it might exist in most cases.

Q Well, proceeding along that line, too, now, for clarification, when you get down to your last item there, "L" - -

A Yes, sir.

Q - - are you talking about having this one zone pay out the well?

A No, sir.

Q You are talking about all three. I see.

A That is profit on all three reservoirs developed on 80 acre spacing.

Q On 40, all three - -

A The profit shown under Item L for 80 acre spacing, oh, would be the profit for 80 acre development of all three reservoirs.

Q I see. All right, sir. Now, refer to your Exhibit Six.



There is something there I don't exactly understand, if you would, please. Your Item E there, net interest, percent.

A Yes, that represents $7/8$ ths of the total hydrocarbons underlying or included in that lease. That represents the working interest ownership, which Texaco holds under lease. That excludes the one-eighth. This is royalty.

Q Excluding the one-eighth?

A Yes, sir.

Q I notice from your plat, Exhibit Number One, that all of your wells are located in the Southeast Quarter of a quarter section. I believe that is correct.

A Yes, that's correct.

Q Now, if the Examiner or Commission should feel that they wanted to restrict these wells, this pool, to fixed quarter-quarter sections, for example, in your case, it would be the Southeast Quarter or the Northwest Quarter of a quarter section, that wouldn't put any of your wells off pattern then, would it?

A No, sir, it wouldn't at the present time. Under temporary rules, which we are requesting, we feel that it might be well to grant as much leeway as possible in the early stages of development. As you mentioned, it would not be detrimental or conflicting with any of the completions to date. I might add that Phillips Petroleum Company attempted a Pennsylvanian completion in their well No. 87 in Section 31. That completion was not successful. I would like to



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1000

1000

WAS

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about triple completions, make this economical, now, if you are going to drill triple completions in the other pools, the rules that you are going to have to be governed by in order to complete in those pools require fixed quarter-quarter sections, then, you will have to drill in those fixed quarter-quarter sections in any event, unless you intend to drill an uneconomic single completion.

A The way I understand your statement, I don't see that that is correct. We are proposing that we be allowed to complete in any one of the quarter-quarter sections, in the quarter section. We agree with your statement that if included in the development of these other reservoirs, the well would be located either in the Northwest Quarter or a quarter section, or the Southeast Quarter or a quarter section. However, for temporary rules, we feel that the case could arise whereby it would be advisable to drill in one of these other two quarter-quarter sections.

Q Well, if it was advisable to do that, Mr. Whigham, you would be drilling a single completion, would you not?

A That is possible.

MR. JTZ: Do you know whether the rules for the Abo and Devonian are restricted to a certain quarter-quarter section?

A I know that that is correct on at least one of those reservoirs. I have copies of the rules before me and I can check that very quickly.



MR. DURRETT: It should be Rule Four, Mr. Whigham, in each situation.

A For the Vacuum Abo, the locations are specified to be in the Northwest Quarter or the Southeast Quarter of the - - of a governmental section. For the Vacuum Wolfcamp, they are likewise specified.

MR. UTZ: Northwest-Southeast?

A Yes, sir. Northwest Quarter and the Southeast Quarter of a governmental quarter section. The North Vacuum Devonian, they are specified to be on the Northwest and Southeast.

MR. UTZ: Mr. Whigham, would you agree that Mr. Durrett's statement to where you have to drill if you dual or triple complete in either of these three zones, his statement would be correct?

A Yes, sir, I understand that statement to be correct. I might add that in this general vicinity, there are three other reservoirs that I know of that are developed on 40 acres. That would be the San Andres and Glorieta and Blinbry, and I know of no eminent possibility, but it appears possible that later on, it may be advisable to complete the Pennsylvanian with one of these other three reservoirs that are developed on 40 acres. I don't anticipate that, but it could happen.

Q (By Mr. Durrett) But, that wouldn't restrict you any on your drilling, would it, if they are developed on 40?

MR. UTZ: Developed on 40, you could drill any 40 any way?



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

A It would be restricted, would restrict us if we followed these, if we wrote the rules to specify the Northwest Quarter or the Southeast Quarter, it would restrict us to those two locations.

Q (By Mr. Durrett) I see. You would be restricted where you otherwise weren't?

A We would like to be able to pick any one of the four locations on a temporary basis. I am not saying that it is even a strong possibility. I can say that it is a possibility that it would be desirable to multiple complete on one of the reservoirs.

MR. WHITE: For the record, as I understand, what he is trying to explain is if he is not limited by the special rules in this particular instance, then, they could drill, say, in the Northeast Quarter and multiple complete in the San Andres, Glorieta and Blinbry, but then, if they wanted to multiple complete in the Abo, or Wolfcamp or Devonian, they would come in and get permission because it would be an unorthodox location as to those multiple completions. Isn't that what you are trying to say?

A Yes, sir.

MR. UTZ: Well, would you agree that in the temporary stages of development of the pool, if you had too much latitude, then there would be so many wells drilled off pattern that it might even be impossible, if not, at least impractical, to then restrict to a rigid pattern such as we have in the Abo, Wolfcamp and Devonian?

A Yes, sir, I would agree to that at the present time. I



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Albuquerque, New Mexico

Phone 243-6601

Suite 1120 Simms Building

might recede that I know of no case where the situation requires
necessary that the energy region should be developed in the
Northeast or the Southwest. Therefore, I cannot strenuously oppose
your limiting these locations to the Northwest and the Southern
quarter-quarter.

MR. UTZ: Are there other questions of the witness?
The witness may be excused. Are there statements in this case?
The case will be taken under advisement.

* * *

STATE OF NEW MEXICO {
COUNTY OF BERNALILLO {

I, ROY D. WILKINS, 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 of Office this 30 th day of
March, 1964.

Roy D. Wilkins
NOTARY PUBLIC

My Commission Expires: I do hereby certify that the foregoing is
a complete record of the proceedings in
September 6, 1967. the Examiner hearing of case 3016
heard by me on 3-25-64.

Thurley W. [Signature], Examiner
New Mexico Oil Conservation Commission



DEARNLEY-MEIER REPORTING SERVICE, Inc.
 FARMINGTON, N. M.
 PHONE 325-1182
 SANTA FE, N. M.
 PHONE 983-3971
 ALBUQUERQUE, N. M.
 PHONE 243-6691

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

EXAMINER HEARING

IN THE MATTER OF: Application of Texaco, Inc.
 for special pool rules, Lea County, New Mexico.

Case No. 3016

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The Hearing will come to order. We will call
 Case Number 3016.

MR. DURRETT: Application of Continental Oil Company
 to revise the vertical limits of the Blinebry Oil Pool and Terry
 Blinebry Pool, Lea County, New Mexico.

MR. KELLY: Mr. Utz, Case 3016, is the Commission taking

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PHONE 243-6691

any action on that today? That is the one that was published erroneously, as far as the range number, and we had the Hearing and Testimony --

MR. UTZ: Yes, we plan to call the Case to see if there is any.

MR. KELLY: You went out of order, I just wondered what

MR. UTZ: Well, I went out of order as far as numbers are concerned, I didn't go out of order as far as the docket is concerned.

MR. KELLY: Well, on my sheet, it is following Case 3024.

MR. UTZ: Well, I thought I had my docket in order, cases in order, but I see somebody has been into them. We will call Case Number 3016 next. This is the only case you have. Let the record show we are on Case Number 3016.

MR. DURRETT: Application of Texas Inc. for special Pool Rules, Lea County, New Mexico.

MR. KELLY: Booker Kelly, appearing on behalf of Texaco, Inc.; for the record, the evidence was already introduced on March 25th and a new publication was required. The original publication, erroneously referred to Range 35 East, Lea County. It should be Range 34 East, Lea County, and we ask the Commission at this time to take the evidence that was introduced at that time and consider it as though it was being introduced now.



MR. UTZ: Are there any appearances in Case 3016?

MR. DURRETT: The Examiner please, I would like to state that the Case has been readvertized as it appears on the docket here today.

MR. UTZ: Since there are no appearances in the case, the question of testimony, which was given at the last Examiner Hearing, that testimony will be accepted in this case as far as this record is concerned. The commission will take the case under advisement.

* * * * *

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, CHARLES FLOYD WALKER, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached transcript of Hearing was reported by me in stenotype and that the same was reduced to typewritten transcript 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.

My Commission Expires:

Charles Floyd Walker
NOTARY PUBLIC

March 25, 1968.

I do hereby certify that the foregoing is a complete record of the proceedings in

the Examiner hearing of Case No. 3016,
heard by me on *February 18*, 1964.

Thomas G. [Signature], Examiner
New Mexico Oil Conservation Commission



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

(2)
DRAFT
JMD/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:

APPLICATION OF TEXACO INC.
FOR SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO.

CASE No. 3016

Order No. R-2697

*Hold this order until
April 29, 1964*
OF-ETM

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
April 29, 1964, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.
~~Examiner duly appointed by the Oil Conservation Commission of New~~
~~Mexico, hereinafter referred to as the "Commission," in accordance~~
~~with Rule 1214 of the Commission Rules and Regulations.~~

NOW, on this May day of April, 1964, the Commission,
a quorum being present, having considered the ~~application and~~ testimony,
the record, ~~evidence adduced~~, 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 applicant, Texaco Inc., seeks the promulgation of special pool rules for the Vacuum-Upper Pennsylvanian Pool in Lea County, New Mexico, establishing 80-acre spacing therein.
- (3) 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 80-acre spacing units should be promulgated for the Vacuum-Upper Pennsylvanian Pool.

(4) 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.

(5) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(6) That this case should be reopened at an examiner hearing in May, 1965, at which time the operators in the subject pool should be prepared to appear and show cause why the Vacuum-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

~~(1)~~ That ^{Temporary} Special Rules and Regulations for the Vacuum-Upper Pennsylvanian Pool are hereby promulgated as follows, effective ~~June~~ 1, 1964.

SPECIAL RULES AND REGULATIONS
FOR THE
VACUUM-UPPER PENNSYLVANIAN POOL

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

RULE 2. Each well completed or recompleted in the Vacuum-Upper Pennsylvanian Pool shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a single governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

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 comprising a single quarter-quarter section or lot. All operators offsetting the proposed non-standard unit 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 offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary Director has received the application.

The first well drilled on every Standard or non-standard unit
RULE 4. ~~Each well projected to or completed in the Vacuum-~~
~~Upper Pennsylvanian Pool shall be located within 150 feet of the~~
~~center of a single governmental quarter-quarter section.~~
center the NW/4 or the SE/4 of
200

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 unorthodox 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 offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) in the Vacuum-Upper Pennsylvanian Pool shall be assigned an 80-acre proportional factor of 5.67 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable in the

Vacuum-Upper Pennsylvanian Pool as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Upper Pennsylvanian formation within the Vacuum-Upper Pennsylvanian Pool or within one mile of the Vacuum-Upper Pennsylvanian Pool that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of said rule. The operator shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before *June* 15, 1964.

(2) That any operator desiring to dedicate 80 acres to a well presently drilling to or completed in the Vacuum-Upper Pennsylvanian Pool shall file a new Form C-128 with the Commission on or before *June* 15, 1964.

(3) That this case shall be reopened at an examiner hearing in May, 1965, at which time the operators in the subject pool may appear and show cause why the Vacuum-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

(4) 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.

TEXACO
INC.

MAIN OFFICE OCC

PETROLEUM PRODUCTS



1964 MAR 4 AM 8:24 P. O. BOX 3109
MIDLAND, TEXAS

DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

March 2, 1964

REQUEST FOR HEARING
VACUUM (UPPER PENNSYLVANIAN) POOL
TEMPORARY RULES

New Mexico Oil Conservation Commission
P. O. Box 2086
Santa Fe, New Mexico 87501
Attn: Mr. A. L. Porter, Jr.

Gentlemen:

Texaco Inc. respectfully requests that a hearing be set to consider its application for temporary field rules for the above subject field. Temporary rules will include a request for 80-acre spacing provisions and a gas-oil ratio limitation rule of 2000 cubic feet per barrel. In support of this application, the following facts are presented:

1. The Lower Pennsylvanian is an oil reservoir producing from depths between 10,107' to 10,180'.
2. Three wells are presently completed in and producing from the Upper Pennsylvanian Oil Pool. All three wells are operated by Texaco Inc. as follows:

Lease	Well No.	Producing Depth	Completion Date	Initial Tests, BOPD	Gas-Oil Ratio
State "O" NCT-1	17	10,130-140'	6-18-63	222	907
State "O" NCT-1	18	10,130-140'	8-1-63	265	1,321
State "Q"	4	10,069-107'	11-19-63	336	1,410

3. The above two leases are located in Sections 36 and 25, respectively, T-17-S, R-35-E, Lea County, New Mexico.

It is respectfully requested that this application be set for hearing on the Examiner hearing docket scheduled for March 25, 1964, at Santa Fe, New Mexico.

Yours very truly,

C. L. Whigham
C. L. Whigham

Division Proration Engineer

DOCKET MAILED

Date 3-12-64

CLW-MM

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 25, 1964

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 3014: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Otto V. Reynolds and all other interested parties to appear and show cause why his Wood Well No. 1 located in Unit N, Section 14, and his Lohman Well No. 1 and Gale Well No. 1, located in Units C and E, respectively, Section 24, and the Seitzinger Well No. 1 located in Unit H, Section 23, all in Township 29 North, Range 11 West, San Juan County, New Mexico, should not be plugged in accordance with a Commission-approved plugging program.

CASE 3015: Application of Lone Star Producing Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Atlantic State Well No. 1 located in Unit G of Section 30, Township 17, South, Range 36 East, Lea County, New Mexico, to produce oil from an undesignated San Andres Pool and from undesignated Abo Detritus through parallel strings of 2-3/8 inch tubing.

CASE 3016: Application of Texaco, Inc. for the creation of a new oil pool and for temporary pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Upper-Pennsylvanian production in Sections 25 and 36, Township 17 South, Range ~~35~~ East, Lea County, New Mexico, and the establishment of special pool rules therefor, including a provision for 80-acre proration units.

CASE 3017: Application of Texaco, Inc. for an exception to Rule 309-A, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce up to a maximum of 20 proration units into its New Mexico State "AE" lease tank battery, Vacuum Abo Reef Pool, Lea County, New Mexico.

CASE 3018: Application of Tenneco Oil Company for a waterflood project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Round Tank San Andres Pool, Chaves County, New Mexico, by the injection of water into the San Andres formation through one well located in Unit I of Section 24, Township 15 South, Range 28 East.

CASE 3019: Application of Cactus Drilling Corporation for an unorthodox well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its proposed Texas No. 1 Jennings Federal Well at an unorthodox location 1300 feet from the North and East lines of Section 10, Township 20 South, Range 29 East, Eddy County, New Mexico; said well is a wildcat projected to the Devonian formation.

Case 3016

Heard 3-25-64

Rec. 3-26-64

1. Grant Depaco a temporary SOA.
order for the ~~Super~~-Vacuum-refiner
Penn Oil Pool.
2. Use R-2677 as a guide for these
Pool Rules with the exception of the
GOR. Use 2000! for GOR.
3. Deplhfactor shall be. 5.67

Shirley W.

WESTERN UNION TELEGRAM

SYMBOLS	
DL	Day Letter
NL	Night Letter
IT	International Letter Telegram

W. P. MARSHALL, PRESIDENT

1964 MAR 23 PM 2:39

LA109 SSJ234
L HBA066 PD=HOBBS NMEX 23 213P MST=
A L PORTER JR=
NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE NMEX=
RE: CASE 3016 SOCONY MOBIL OIL CO INC., SUPPORTS THE
REQUEST OF TEXACO INC. FOR TEMPORARY POOL RULES WITH
80 ACRE PRORATION UNITS FOR THE VACUUM UPPER;
PENNSYLVANIAN POOL=
GLEN W BARB PRODUCING SUPERINTENDENT
HOBBS DISTRICT=

3016 80=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

Tidewater Oil Company



May 7, 1965

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

ATTENTION: Mr. Dan Nutter, Chief Engineer

Re: Case No. 3016
Reopened Order No. R-2697
Vacuum-Upper Pennsylvanian Pool
Lea County, New Mexico

Gentlemen:

This is concerning the subject reopened case now set
for hearing on May 12, 1965.

We are advised that Texaco Inc. will present testimony
at this hearing requesting that the temporary field rules
adopted in Order No. R-2697 be made permanent providing for
80 acre spacing. Please be advised that Tidewater Oil Company
concurs with Texaco's request and respectfully urges that the
existing temporary field rules be made permanent.

Very truly yours,

TIDEWATER OIL COMPANY

John S. Cameron Jr.
JOHN S. CAMERON, JR.

JSC:mfs

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 12, 1965

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

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

CASE 2691 (Reopened):

In the matter of Case No. 2691 being reopened pursuant to the provisions of Order No. R-2573-A, which order continued 640-acre gas proration units for the Lusk-Morrow Gas Pool, Lea County, New Mexico, for one year. All interested parties may appear and show cause why said pool should not be developed on 160-acre proration units.

CASE 3016 (Reopened):

In the matter of Case No. 3016 being reopened pursuant to the provisions of Order No. R-2697, which order established 80-acre spacing units for the Vacuum-Upper Pennsylvanian Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 3245: Application of Worldwide Petroleum Corporation for creation of an oil pool and for an amendment to Order No. R-2095, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the Seven Lakes Oil Pool for production of oil from the Menefee formation in Township 18 North, Range 10 West, McKinley County, New Mexico. Applicant further seeks an order amending Order No. R-2095, which authorized a waterflood project in the Seven Lakes area, McKinley County, New Mexico. Applicant seeks the designation of the SW/4 of Section 17, SE/4 of Section 18, N/2 of Section 19, and the NW/4 of Section 20, all in Township 18 North, Range 10 West, to be the waterflood project area. Applicant further seeks authority to inject water in the Seven Lakes Pool through 8 wells drilled at various orthodox and unorthodox locations within said project area, and to drill for water injection purposes and as producers numerous other wells in said project area. Development of the project area would be on a standard 10-acre 5-spot water injection pattern subject to amendment as need may arise upon administrative approval by the Secretary-Director of the Commission.

May 12, 1965 Examiner Hearing

CASE 3246: Application of Paul DeCleva for an amendment to Order No. R-2691, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an amendment to Order No. R-2691, which order prescribes pool rules for the Mesa Queen Pool, Lea County, New Mexico. Applicant, among other things, requests that said rules be amended to include the definition of gas wells and oil wells in said pool, the assignment of 40 acres to oil wells, and the assignment of 160 acres to gas wells.

CASE 3247: Application of Paul DeCleva for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard gas proration unit for his Tidewater State Well No. 1 located in Unit D of Section 17, Township 16 South, Range 32 East, Mesa Queen Pool, Lea County, New Mexico, said unit to comprise the W/2 NW/4, NE/4 NW/4, and NW/4 NE/4 of said Section 17.

CASE 3248: Application of Texaco Inc. for commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Drinkard production from Tract 1 of its W. L. Nix Lease comprising the W/2 SE/4 and E/2 SW/4 of Section 17, and from Tract 2 of said lease comprising the W/2 NE/4 and E/2 NW/4 of Section 20, all in Township 22 South, Range 38 East, Lea County, New Mexico, allocating the production to each tract on the basis of periodic well tests. Applicant further seeks administrative procedure to extend the above-described commingled method to other zones that may prove productive from said lease.

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
C. S. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

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

May 8, 1964

Mr. Booker Kelly
Gilbert, White & Gilbert
Attorneys at Law
Post Office Box 787
Santa Fe, New Mexico

Re: Case No. 3016
Order No. R-2697
Applicant:
Texaco Inc.

DOCKET MAILED

Date 4-28-65
JW

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

lr/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Astec OCC

OTHER

SHOW CAUSE HEARING
PURSUANT TO ORDER NO. R-2697
ESTABLISHING TEMPORARY 80-ACRE UNITS

VACUUM-UPPER PENNSYLVANIAN OIL POOL
LEA COUNTY, NEW MEXICO

EXAMINER HEARING DOCKET NO. 13-65
WEDNESDAY MAY 12, 1965
CASE NO. 3016

RECOMMENDATION

Texaco Inc. recommends that the temporary rule specifying 80-acre spacing units for the Vacuum-Upper Pennsylvanian Pool as established by Order No. R-2697 be made permanent.

BASIS

1. The initial bottom hole pressure on late development wells indicates a significant reduction in reservoir pressure and is very near the subsequent pressures taken on earlier developed wells. This shows a well depletion area greater than 80 acres.

2. Although the volumetric calculations (specific porosity) has been revised upward to compensate for better performance than originally predicted, the remaining reserves for a 40 acre tract are insufficient to pay for development costs.

VACUUM UPPER PENNSYLVANIAN FIELD

LEA COUNTY, NEW MEXICO

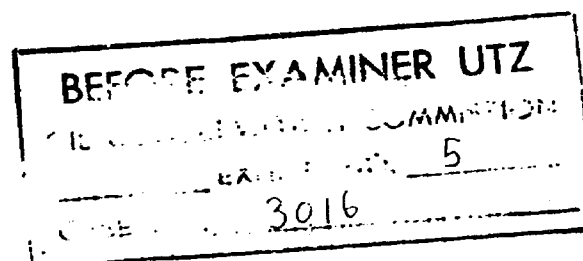
RESERVOIR DATA SHEET

Average Porosity, Percent	7.5 (Estimated)
Average Permeability	--- (Unknown)
Connate Water Saturation, Percent	25 (Estimated)
Average Net Pay, Feet	33 (Log Analysis)
Oil Gravity, °API	41.2
Solution GOR, Cubic Feet per Barrel	1213 (Estimated)
Saturation Pressure, Psi	3700 (Estimated)
Formation Volume Factor, STB/Res. Bbl.	1.57 (Estimated)
Cumulative Oil Production 3-1-65	488,571
Current Oil Production, Bbls. Feb. 1965	43,102 /
Present Number of Completions 3-1-65	8
Well Density, Acres per Well	80
Developed Area, acres	640
Producing Mechanism	Solution Gas
Initial Reservoir Pressure @-6100' Subsea, psi	3802
Reservoir Pressure October 1964, psi	3050 (Initial Completion pressure decline)
Reservoir Pressure October 1964, psi	2902 (Subsequent pressures in key well survey)

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 3016

ECONOMIC ANALYSIS
SINGLE COMPLETION

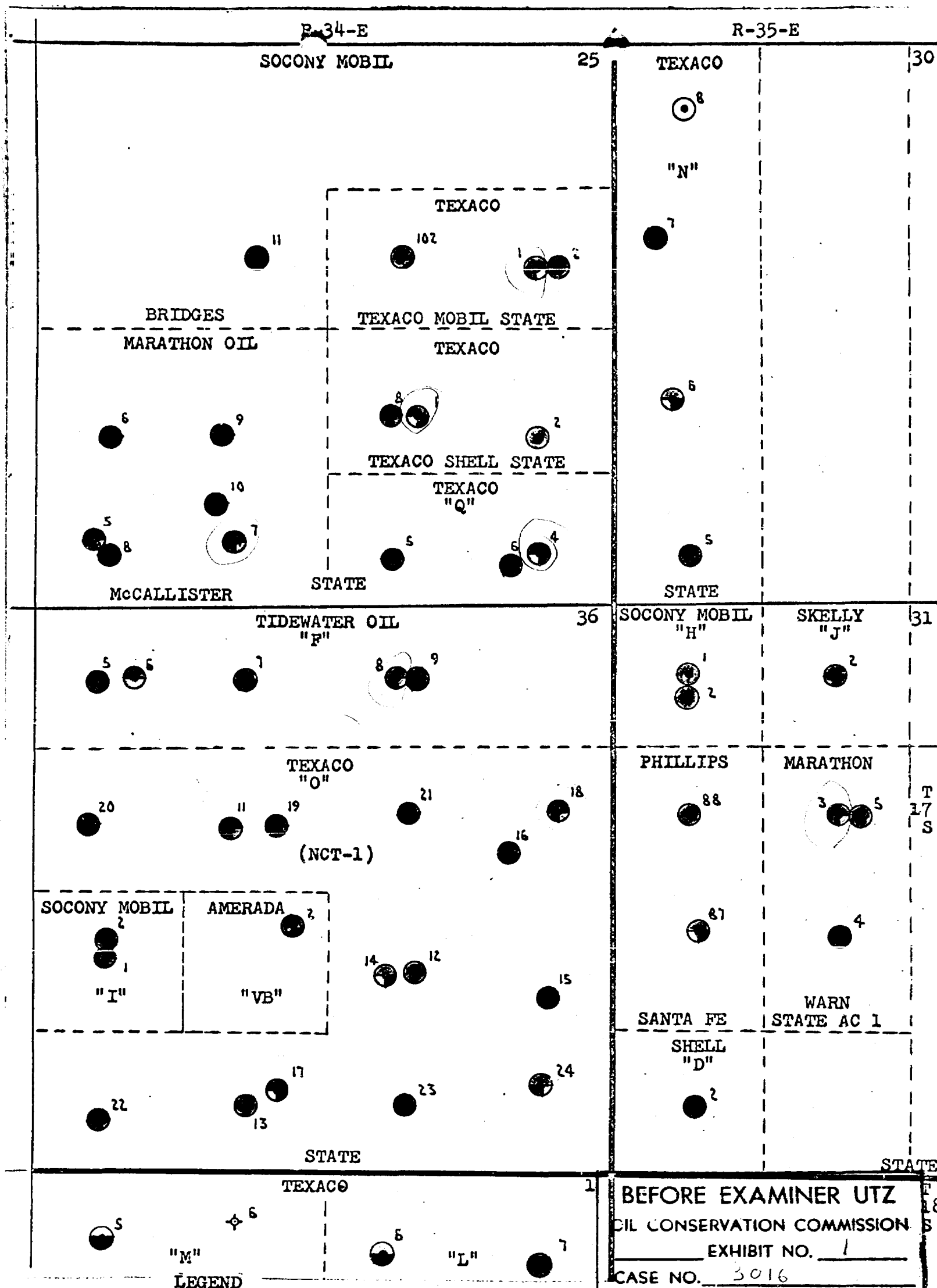
A. Cost to drill and complete a single	\$ 130,000
B. Artificial lift equipment	\$ 25,000
C. Lifting cost per barrel	\$ 0.45
D. Taxes per barrel	\$ 0.24
E. Net interest, percent	0.875
F. Sales value per barrel of oil including gas	\$ 3.46
G. Net value of oil per barrel	\$ 2.42
H. Reserves necessary to pay out the well, Bbls.	64,000
I. Estimated reserves, 40 acre spacing, Bbl.	35,500
J. Loss on 40 acre spacing	\$ 69,000



ECONOMIC ANALYSIS

A. Cost to drill and complete a triple (Average of 12 wells - Range \$221,000 to \$700,000)	\$ 331,000
B. Artificial lift equipment (3 hydraulic per well)	\$ 63,000
C. Lifting cost per barrel	\$ 0.45
D. Taxes per barrel	\$ 0.24
E. Net interest, percent	0.875
F. Sales value per barrel of oil	\$ 3.46
G. Net value of oil per barrel	\$ 2.42
H. Reserves necessary to pay out the well, Bbls.	160,800
I. Estimated reserves, 40-acre spacing	155,150
J. Loss on 40-acre spacing	\$ 18,500
K. Estimated Reserves, 80-acre spacing	310,300
L. Profit on 80-acre spacing	\$ 356,900

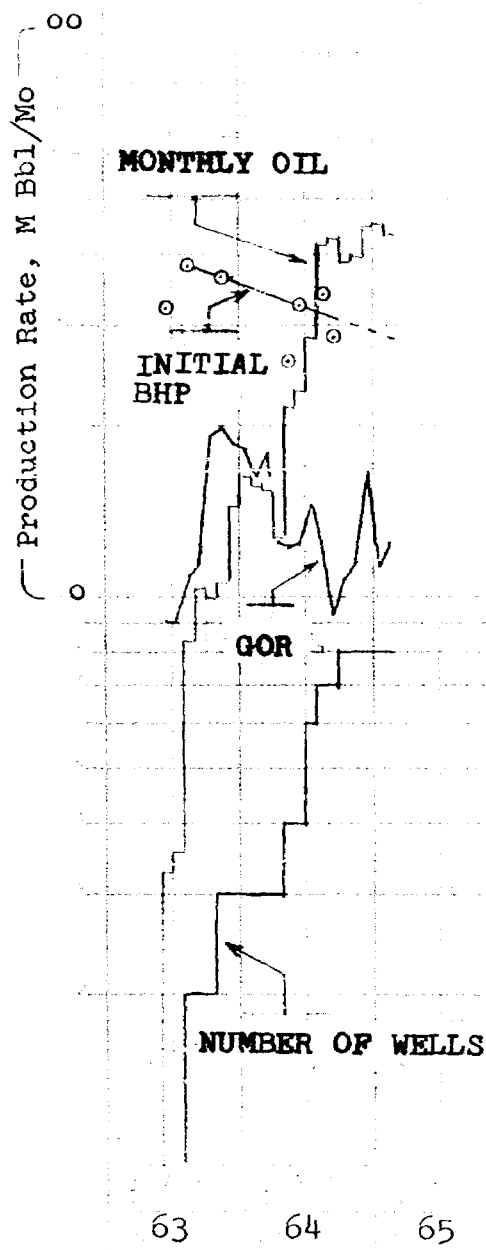
BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 3016



TEXACO Inc.
Hobbs District

LEASE OWNERSHIP PLAT
PORTION OF
VACUUM (MULTI-PAY) FIELD
LEA COUNTY, NEW MEXICO

11-63 TO 11-64 MONTHLY
8.5 LONG CYCLES
NUMBER OF WELLS



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 3016

TEXACO Inc.
Hobbs District
PERFORMANCE CURVES
VACUUM (UPPER PENNSYLVANIAN)
FIELD
LEA COUNTY, NEW MEXICO
Drawn By: KCP Date: 4-28-65

Bottom Hole Pressure, psi
Gas-Oil Ratio, SCF/Bbl
Number of Wells

VACUUM UPPER PENNSYLVANIAN COMPLETION DATA

OPERATOR LEASE AND WELL NO.	DATE	INTERVAL	STIMULATION	INITIAL COMPLETION			POTENTIAL 24hr. Rate			PRODUCTION		
				STATUS CHOKE	TBG. PPSS.		OIL	WATER	GOR	BHP @ -6100' SS	Monthly FEB. '65	Cumulative 3-1-65
MARATHON McAllister State No. 7 State Mon AC 1 No. 3	9-24-64 6-23-64	10,064-10,122 10,124-10,146	A/3000 A/500	F 18/64 F 14/64	350 830		301 242	16 0	1190 1259	2858 3255 *	5947 7897	10,665 55,137
TEXACO Inc. State "O" (NCF-1) No. 11	3-30-63	10,331-10,386	A/500	F 20/64	175		54	0	2660	2370	PEA	768
State "O" (NCF-1) No. 17	6-18-63	10,130-10,140	A/500	F 15/64	125		222	0	907	3219	5697	106,857
State "O" (NCF-1) No. 18	8-1-63	10,130-10,140	A/500	F 18/64	-		265	25	1321	3802 #	6506	118,061
State "O" No. 4	11-19-63	10,063-10,107	A/500	F 48/64	100		403	0	1410	3662	5830	93,026
Texaco Mobil State No. 1	8-4-64	10,024-10,085	A/500	F 21/64	100		268	0	1398	3407	5124	38,623
Texaco Shell State No. 1	5-19-64	10,032-10,070	A/500	F 28/64	200		252	0	1687	2596	1688	24,433
TIDENATER State "F" No. 8	7-16-64	10,080-10,176	A/2500	F 23/64	300		314	0	1113		4363	41,201
<hr/>												
43,102 488,571												

* Subsequent pressure in the October, 1964 Key Well Survey was 2998 psi after having produced 16,708 barrels.
Subsequent pressure in the October, 1964 Key Well Survey was 2809 psi after having produced 85,159 barrels.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 3016

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. 3016
Order No. R-2697

APPLICATION OF TEXACO INC.
FOR SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 29, 1964, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 8th day of May, 1964, 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 applicant, Texaco Inc., seeks the promulgation of special pool rules for the Vacuum-Upper Pennsylvanian Pool in Lea County, New Mexico, establishing 80-acre spacing therein.

(3) 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 80-acre spacing units should be promulgated for the Vacuum-Upper Pennsylvanian Pool.

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CASE No. 3016

Order No. R-2697

(4) 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.

(5) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(6) That this case should be reopened at an examiner hearing in May, 1965, at which time the operators in the subject pool should be prepared to appear and show cause why the Vacuum-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

That temporary Special Rules and Regulations for the Vacuum-Upper Pennsylvanian Pool are hereby promulgated as follows, effective June 1, 1964.

SPECIAL RULES AND REGULATIONS
FOR THE
VACUUM-UPPER PENNSYLVANIAN POOL

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

RULE 2. Each well completed or recompleted in the Vacuum-Upper Pennsylvanian Pool shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a single governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and

(c) That my wife previously stated that she was not involved in the "Black Liberation Movement" or "Black Power Movement" or any other type of organization which was involved in the "Black Liberation Movement".

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. 3016
Order No. R-2697-A

APPLICATION OF TEXACO INC.
FOR SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on May 12, 1965, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 19th day of May, 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 by Order No. R-2697, dated May 8, 1964, temporary Special Rules and Regulations were promulgated for the Vacuum-Upper Pennsylvanian Pool, Lea County, New Mexico.

(3) That pursuant to the provisions of Order No. R-2697, this case was reopened to allow the operators in the subject pool to appear and show cause why the Vacuum-Upper Pennsylvanian Pool should not be developed on 40-acre spacing units.

(4) That the evidence establishes that one well in the Vacuum-Upper Pennsylvanian Pool can efficiently and economically drain and develop 80 acres.

(5) That the Special Rules and Regulations promulgated by Order No. R-2697 have afforded and will afford to the owner of

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CASE No. 3016

Order No. R-2697-A

each property in the pool the opportunity to produce his just and equitable share of the oil in the pool.

(6) That 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 Order No. R-2697 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 Vacuum-Upper Pennsylvanian Pool promulgated by Order No. R-2697 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


Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guyton B. Eays
GUYTON B. EAYS, Member

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

ear/

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 12, 1965

EXAMINER HEARING

IN THE MATTER OF:

Case No. 3016 being reopened pursuant
to the provisions of Order No. R-2697,
which order established 80-acre spacing
units for the Vacuum-Upper
Pennsylvanian Pool, Lea County, New
Mexico, for a period of one year.

Case No. 3016
(reopened.)

BEFORE:

ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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MR. UTZ: Case 3016. In the matter of Case No. 3016 being reopened pursuant to the provisions of Order No. R-2697, which order established 80-acre spacing units for the Vacuum-Upper Pennsylvanian Pool, Lea County, New Mexico, for a period of one year.

MR. KELLY: Booker Kelly of White, Gilbert, Koch and Kelly on behalf of the Applicant.

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name, position and employer, please?

A C. L. William. I am Division Proration Engineer for Texaco, Incorporated, located in Midland, Texas.

MR. KELLY: Mr. Examiner, the witness has not been sworn.

MR. UTZ: Stand and raise your right hand.

(Witness sworn.)

(Whereupon, Applicant's Exhibits marked for identification.)

C. L. W I L L I A M, having been duly sworn, was examined and testified as follows:

Q (By Mr. Kelly) Would you state briefly what Texaco's position is in this Hearing?

A Yes, sir. Texaco, Incorporated is Applicant in this Hearing requesting temporary field rules for the Vacuum-

Upper Pennsylvanian Pool as established by Order R-2697 be made permanent.

Q Referring to what has been marked Exhibit Number 1, which is the plat of the pool, would you explain that to the Examiner showing the wells that were drilled at the time of the last Hearing and the new wells?

A Yes, sir. Exhibit Number 1 is the lease ownership plat. It shows the various operators in the Vacuum-Upper Pennsylvanian field. It shows all of the wells in that vicinity and the map is color coded to show the producing formations of each one of the wells.

The subject reservoir, the Upper Pennsylvanian is designated by the purple color. At the time of the last Hearing, there were four wells completed in the Vacuum-Upper Pennsylvanian Pool. Those were the State of New Mexico 011, State of New Mexico 017, State of New Mexico 018, State of New Mexico C4. Even at that time, State of New Mexico 011 had been plugged and abandoned. In addition to those three wells that had been drilled approximately a year ago, there has subsequently been drilled five other wells.

Q Just a second, your 0-11, your color chart doesn't show that.

A That's right, it has been plugged and abandoned and

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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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PAGE 4

is no longer producing from the Upper Pennsylvanian oil pool.

The other wells that have been drilled since the last Hearing, Marathon's McAllister State Number 7; Marathon State Warren A-C 1 Well Number 3, and Tidewater's State F Number 8. The plat also shows that there are three operators in the Upper Pennsylvanian oil pool, Texaco, Incorporated, Marathon Oil Company and Tidewater Oil Company.

Q Could you give the Examiner the depths of the lower pool, the Abo through Devonian?

A Yes, as you know, this is called the vacuum multi-pay area. There are seven producing formations in this area, the uppermost being the Greyburg San Andres, and then, the Glorieta and Blinberry, down to about 7,000 feet; those three reservoirs are on 40-acre spacing. Then, down at about 9,000 feet is the Abo known as the Vacuum North Abo Oil Pool, below that at about 10,000 feet is the Vacuum Wolfcamp Oil Pool. Immediately below it is the Vacuum-Upper Pennsylvanian Pool, the subject oil pool in this Hearing and then, the deepest reservoir is the Devonian located at a depth of approximately 12,000 feet.

The four pools, the Abo, Wolfcamp, Penn and Devonian are presently on 80-acre spacing.

Q Are all of the others, the Abo, Wolfcamp and Devonian

are they on temporary or permanent 80-acre?

A All are on permanent except the Upper Pennsylvanian.

Q So all of your completions in those zones are 80-acre spacing?

A Yes, sir.

Q Do you feel that the effective pool limits of the Pennsylvanian have been pretty well outlined?

A Yes, sir. Essentially, they have been. There is no further development at the present time. Later on, there may be some minor recompletion work done in existing wells, possibly.

Q So that a return to 40-acre spacing would be for infield drilling?

A Most unlikely.

Q Going on to what has been marked Exhibit 2, which is your reservoir data sheet that's on the other side of the presentation as prepared, would you briefly go over that and give the Examiner the changes between our original Hearing and the information we now have?

A Yes, sir. I'll only mention the reservoir properties that have been found to be different from what was presented at the previous Hearing. The average porosity has since been established at 7.5 per cent, it was initially reported at five per cent. The cumulative oil production to March 1,

1965, is 488,571 barrels. Approximately 400,000 barrels of oil have been produced from this reservoir since the previous Hearing about a year ago.

Current production is now about 43,102 barrels of oil per month from these eight wells. From the three wells completed at the time of the last Hearing, the monthly production was about 15,613 barrels. Then, the present number of completions as already mentioned, is eight. Now, it was three at the last Hearing.

Developed acres at the present time is 640, or the eight wells times the 80-acre proration units. It was previously 240. The rest of the information is essentially the same as was presented at the previous Hearing.

Reservoir pressure has declined since initial completion and now stands at approximately 3,050 psi.

Q Going on to Exhibit 3, which is your performance curves, does this show the curve of your bottom hole pressure as the wells are drilled?

A Yes, it does, Mr. Kelly, and this might be a good place here to make the statement that our case for 80-acre spacing is based on the fact that the reservoir pressure has declined on initial completions of subsequent wells. The initial bottom hole pressure on the later development wells indicates a rather significant reduction in reservoir

pressure and is very near the subsequent pressures taken on the earlier developed wells.

Now, this, of course, shows communication between each of the wells that has been drilled. The performance curve shown on Exhibit Number 3 shows the pressures that were measured on these wells immediately upon completion. The last well completed in this reservoir was completed September the 24th, 1964, and exhibited a bottom hole pressure or a reservoir pressure of 2,902.

Q Which well was that?

A Another Exhibit, Exhibit Number 4, which will be mentioned later on lists all the wells and it is the first one on that list. Marathon's McAllister State Number 7.

Q The bottom hole pressure that was 2858 initial bottom hole pressure on that?

A That's right, it was. Let me correct that, instead of the figure I mentioned 2902, it was 2858.

Q The 2902 figure is your key well survey of your pressures in about four wells that was done in October of '64 shortly after that completion?

A Yes, that's correct.

Q Going on to Exhibit 4, would you briefly go through that for the Examiner?

A Well, Exhibit Number 4 is simply a tabulation of

the wells and the completion data. It's presented here primarily for reference purposes. It shows all the wells that have been completed in the subject reservoir, including the well that has subsequently been plugged and abandoned. It also shows the initial reservoir pressures for all of the wells except Tidewater's State F Number 8 and this indicates very conclusively that the reservoir pressure is declining and that it is in communication between the various wells completed in the Upper Pennsylvanian Oil Pool.

Q Then, it would be your professional opinion that a well could drain well in excess of 80-acres?

A Yes, that's correct.

Q Or has been draining?

A Yes, sir.

Q Now, you have prepared an economical analysis which is shown on Exhibits 5 and 6. Again, we are referring you back to the other side of the other pamphlet, showing an analysis between a single completion and triple completion, would you briefly comment on that?

A Yes, sir. I don't think much comment is warranted here because these are exactly the same exhibits as were presented at the previous Hearing.

It shows the relative loss that would be incurred

by developing the Upper Pennsylvanian reservoir on 40-acre spacing. Exhibit Number 6 shows the economics of a single completion. It shows that the loss incurred by attempting to develop on 40-acre spacing would be \$69,000.00 for a single completion. Then a similar analysis is shown by Exhibit Number 7 for a well that would be completed as a triple and this shows that the loss on 40-acre spacing would be approximately eighteen thousand five hundred.

These are only two reasonable examples, the conditions now are somewhat different because the reservoir has already been essentially developed so the loss by developing on 40-acres would probably lie somewhere between the range indicated by these two last Exhibits.

Q The reason for that being, going back to Exhibit 1, that there are a variety of combinations that you could possibly work out as far as multiple completions?

A Yes.

Q In your opinion, would the continuation or making permanent the existing rules by in the best interest of efficient production and prevention of economic waste?

A Yes, sir. It certainly would.

Q Have the rules as adopted by the Commission worked out in this pool?

A Yes, they have. There have been no difficulties

whatsoever in the development of the Upper Pennsylvanian Pool.

Q And it would be Texaco's recommendation that the rules be made permanent?

A That's correct.

MR. KELLY: We have no further questions.

MR. UTZ: Any questions of the witness? Any statements in this case?

Q (By Mr. Kelly) Were Exhibits 1 through 6 prepared by you or under your supervision?

A Yes, sir, they were.

MR. KELLY: I move the introduction of those Exhibits.

MR. UTZ: Without objection the Exhibits will be entered into the record of this Case. The Case will be taken under advisement.

(Whereupon, the Case was taken under advisement.)

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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I N D E X

WITNESS	PAGE
C. L. WILLIAM	
Direct Examination by Mr. Kelly	2

E X H I B I T S

<u>EXHIBITS</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED</u>
App's. Exhibits 1 - 6	2	10

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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COURT CONVENTIONS
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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 25th day of May, 1965.

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. 3016, heard by me on May 12, 1965.
Theresa H. H. Examiner
New Mexico Oil Conservation Commission