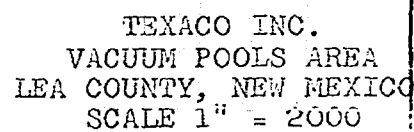


CASE 2931: Application of TEXACO
for a triple completion of its
State of New Mexico "N" Well #7.

CASE NO.
2931

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

R-35-E

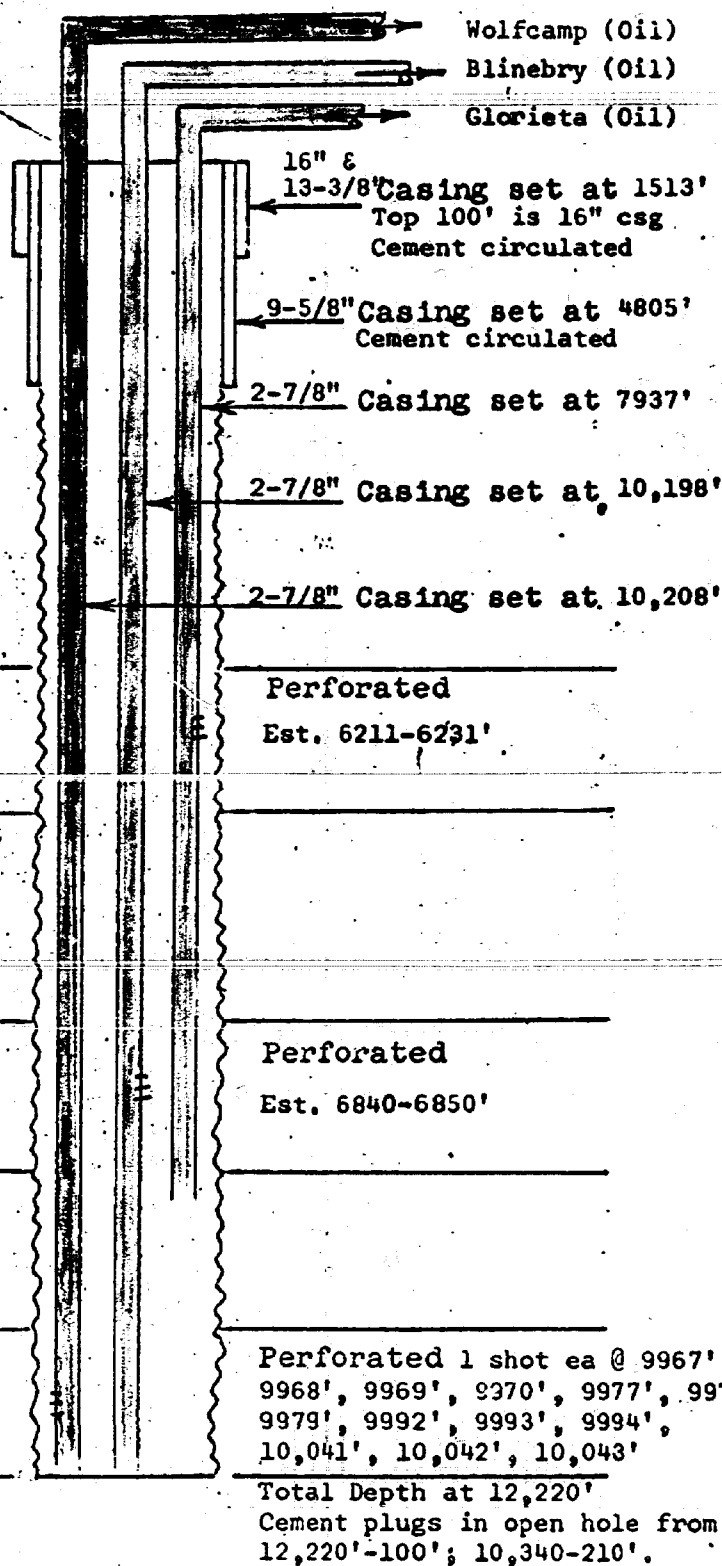


Appl. EXHIBIT NO. 1
CASE NO. 2931, 2932

2933

DIAGRAMMATIC SKETCH OF TRIPLE COMPLETION INSTALLATION (TUBINGLESS)

Note: Cemented down both long strings with 1465 sx and down short string w/522 sacks Class "C", 43 Gel. Cement top at 1720'.



Top at 6211 Feet

Name: Glorieta

Completion this

Zone: Oil

Perforated

Est. 6211-6231'

Bottom at 6231 Feet

Top at 6840 Feet

Name: Blinebry

Completion this

Zone: Oil

Perforated

Est. 6840-6850'

Bottom at 6850 Feet

Top at 9967 Feet

Name: Wolfcamp

Completion this

Zone: Oil

Perforated 1 shot ea @ 9967', 9968', 9969', 9970', 9977', 9978', 9979', 9992', 9993', 9994', 10,041', 10,042', 10,043'

Total Depth at 12,220'

Cement plugs in open hole from 12,220'-100'; 10,340-210'.

TEXACO Inc.

LEASE: State of New Mexico "N" Well No. 7
FIELD: Vacuum (Glorieta, Blinebry and Wolfcamp)
DATE: November 1, 1963

BEFORE EXAMINER UTZ

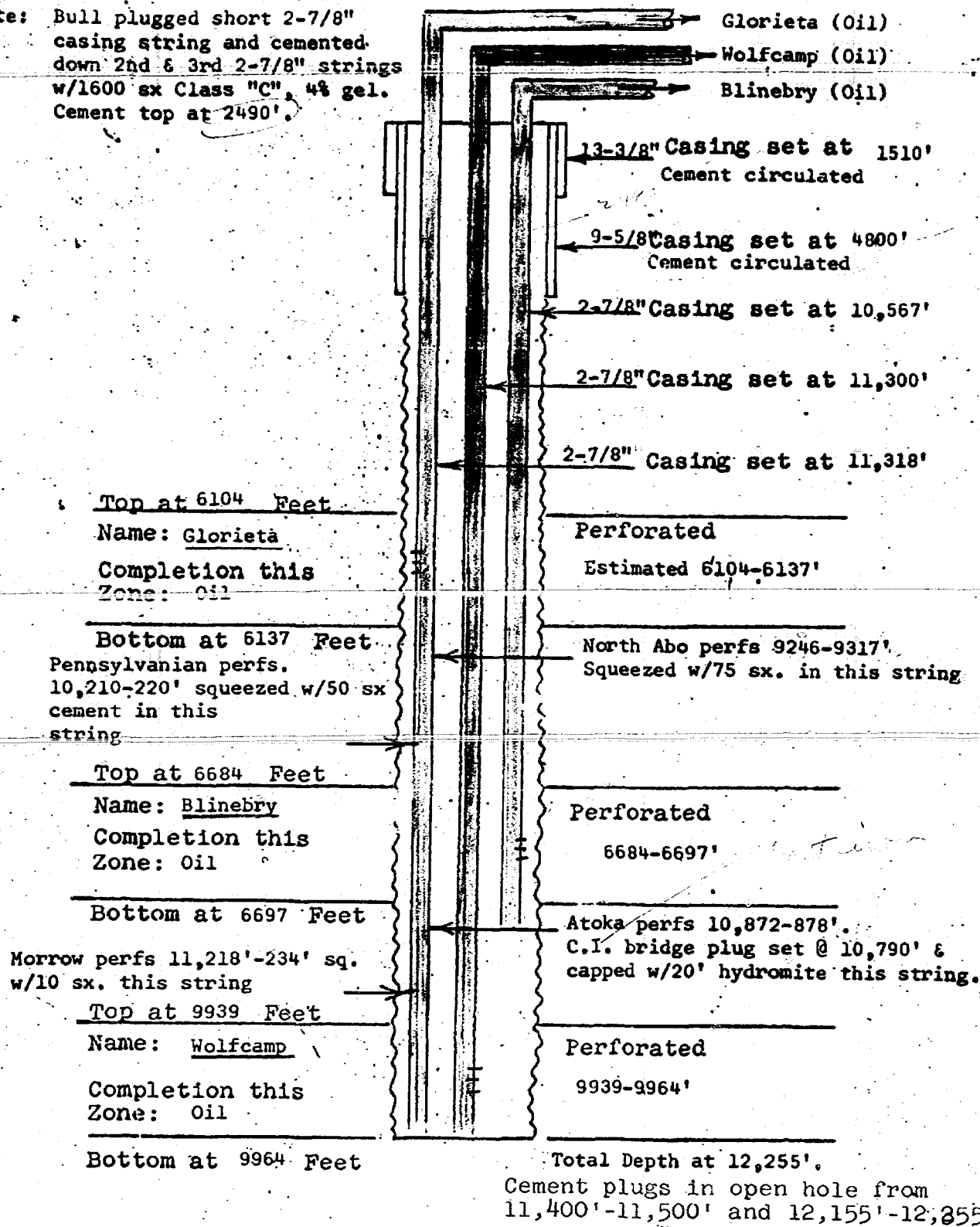
OIL CONSERVATION COMMISSION

EXHIBIT NO. 2

CASE NO. 2931

DIAGRAMMATIC SKETCH OF TRIPLE COMPLETION INSTALLATION (TUBINGLESS)

Note: Bull plugged short 2-7/8" casing string and cemented down 2nd & 3rd 2-7/8" strings w/1600 sx Class "C", 4% gel. Cement top at 2490'.



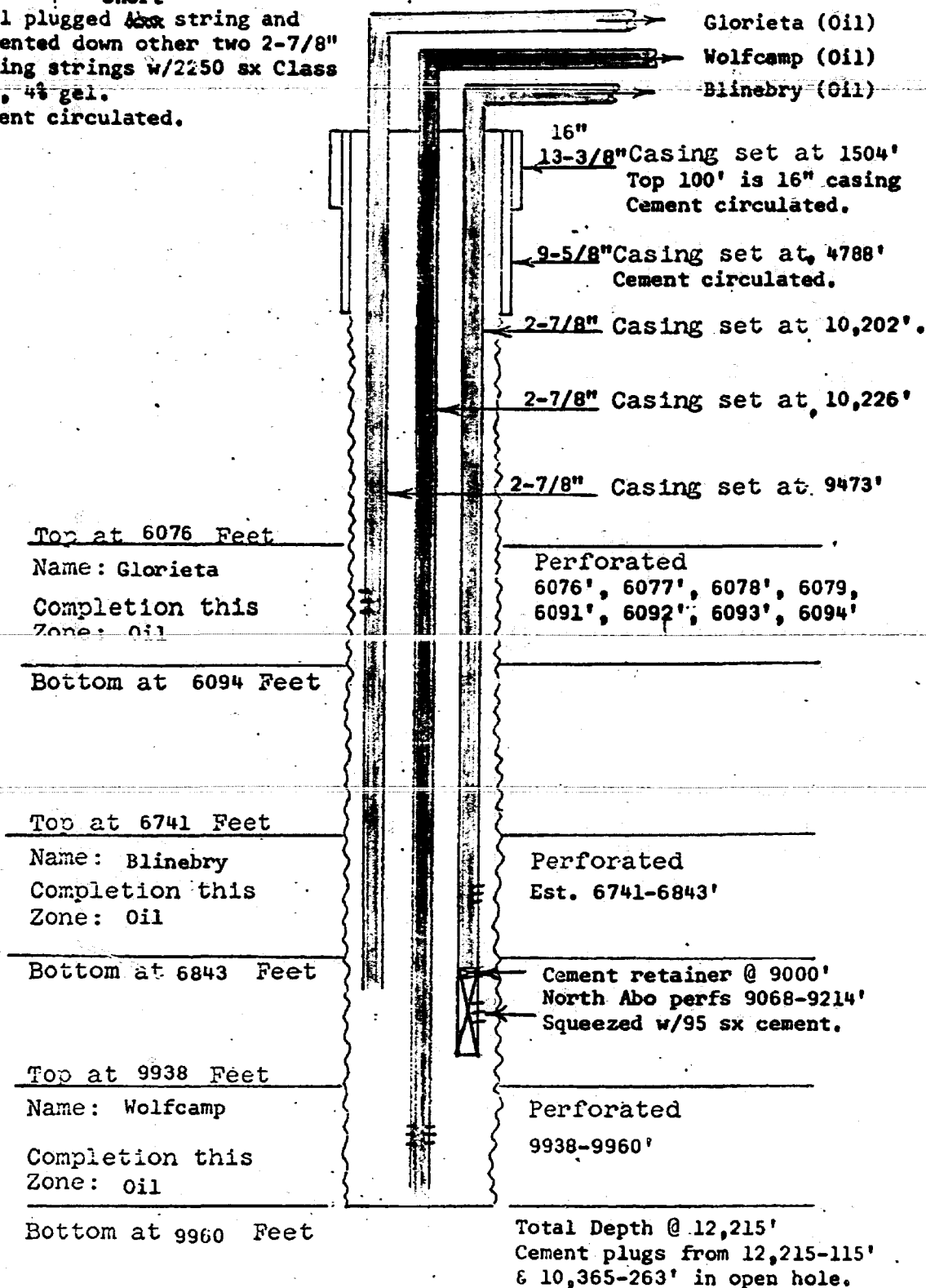
TEXACO Inc.

LEASE: State of New Mexico "L" Well No. 6
FIELD: Vacuum (Glorieta, Blinebry, Wolfcamp)
DATE: November 1, 1963

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2-A
CASE NO. 2932

DIAGRAMMATIC SKETCH OF TRIPLE COMPLETION INSTALLATION (TUBINGLESS)

Note: ^{short} Bull plugged ~~the~~ string and cemented down other two 2-7/8" casing strings w/2250 sx Class "C", 4 1/2 gal. Cement circulated.



TEXACO Inc.

LEASE: State of New Mexico "M" Well No. 5
FIELD: Vacuum (Glorieta, Blinebry, Wolfcamp)
November 1, 1963

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2-B
CASE NO. 2933

TEXACO INC.
VACUUM (GLORIETA, BLINEBRY, AND WOLFCAMP) POOLS
CRUDE CHARACTERISTICS

<u>Item</u>	<u>Vacuum Glorieta</u>	<u>Vacuum Blinebry</u>	<u>Vacuum Wolfcamp</u>
Type Crude	Int. Sweet	Int. Sweet	Int. Sweet
Gravity (°API)	37.2	36.0	42.1
BHP (psi)	2177	1540	3668
GOR (cu.ft./bbl.)	567	350	1066
Status	Flow	Pump	Flow
Corrosion	None	None	None
Paraffin	Slight	Slight	Slight

BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

Appl. EXHIBIT NO. 3

CASE NO. 2931, 2932, 2933

TEXACO
INC.

PETROLEUM PRODUCTS

Case 2931
MAIN OFFICE OCC

DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION



1963 OCT 23 AM 8:16 P. O. BOX 1100
MIDLAND, TEXAS

October 21, 1963

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

Attn: Mr. A. L. Porter, Jr.

Gentlemen:

Texaco Inc. respectfully requests that a hearing be set to consider its application for a tubingless triple completion for the State of New Mexico "M" No. 7. This well will be completed in the Vacuum (Glorieta), Vacuum (Blinbry), and Vacuum (Wolfcamp) Pools, Lea County, New Mexico. In support of our application we wish to state the following facts:

1. Texaco is the operator of the State of New Mexico "M" Lease containing 160 acres and consisting of the NW/4, Section 1, T-18-S, R-34-E, Lea County, New Mexico.
2. State of New Mexico "M" Well No. 7 is located in Unit F of said Section 1.
3. The Glorieta zone will be an oil completion through casing perforations 6211'-6231'.
4. The Blinbry zone will be an oil completion through casing perforations 6840'-6850'.
5. The Wolfcamp zone will be an oil completion through casing perforations 9967'-10,043'.
6. All three zones will be produced through parallel strings of 2-7/8" casing cemented in a common well bore.

Attached is an Application for Triple Completion and a plat of the Texaco State of New Mexico "M" Lease. It is respectfully requested that this application be set for hearing on the first available hearing docket.

Yours very truly,

C. R. Black

C. R. Black
Division Proration Engineer

DOCKET MAILED

Date 10-25-63

CRB-MM
Attach.

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR ^{TRIPLE} DUAL COMPLETION

Field Name	Vacuum Glorieta, Blinebry, Wolfcamp	County	Lea	Date	10-21-63
Operator	Texaco Inc.	Lease	"M"	Well No.	7
Location of Well	Unit F	Section 1	Township 18-S	Range	34-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the ~~well~~ completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X ^{triple}
2. If answer is yes, identify one such instance: Order No. _____; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Middle Zone	Lower Zone
a. Name of reservoir	Vacuum Glorieta	Blinebry	Wolfcamp
b. Top and Bottom of Pay Section (Perforations)	6211' - 6231	6840' - 6850'	9967' - 10,043'
c. Type of production (Oil or Gas)	Oil	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Flow	Flow	Flow

4. The following are attached. (Please mark YES or NO)

- No ^{triple} a. Diagrammatic Sketch of the ~~well~~ Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes and such other information as may be pertinent.
- Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- No c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
- No d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 1122A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Phillips Petroleum Corporation Box 2130 Hobbs, New Mexico

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES _____ NO X. If answer is yes, give date of such notification _____.

CERTIFICATE: I, the undersigned, state that I am the Divn. Proration Engr. of the Texaco Inc. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

C. R. Black
C. R. Black

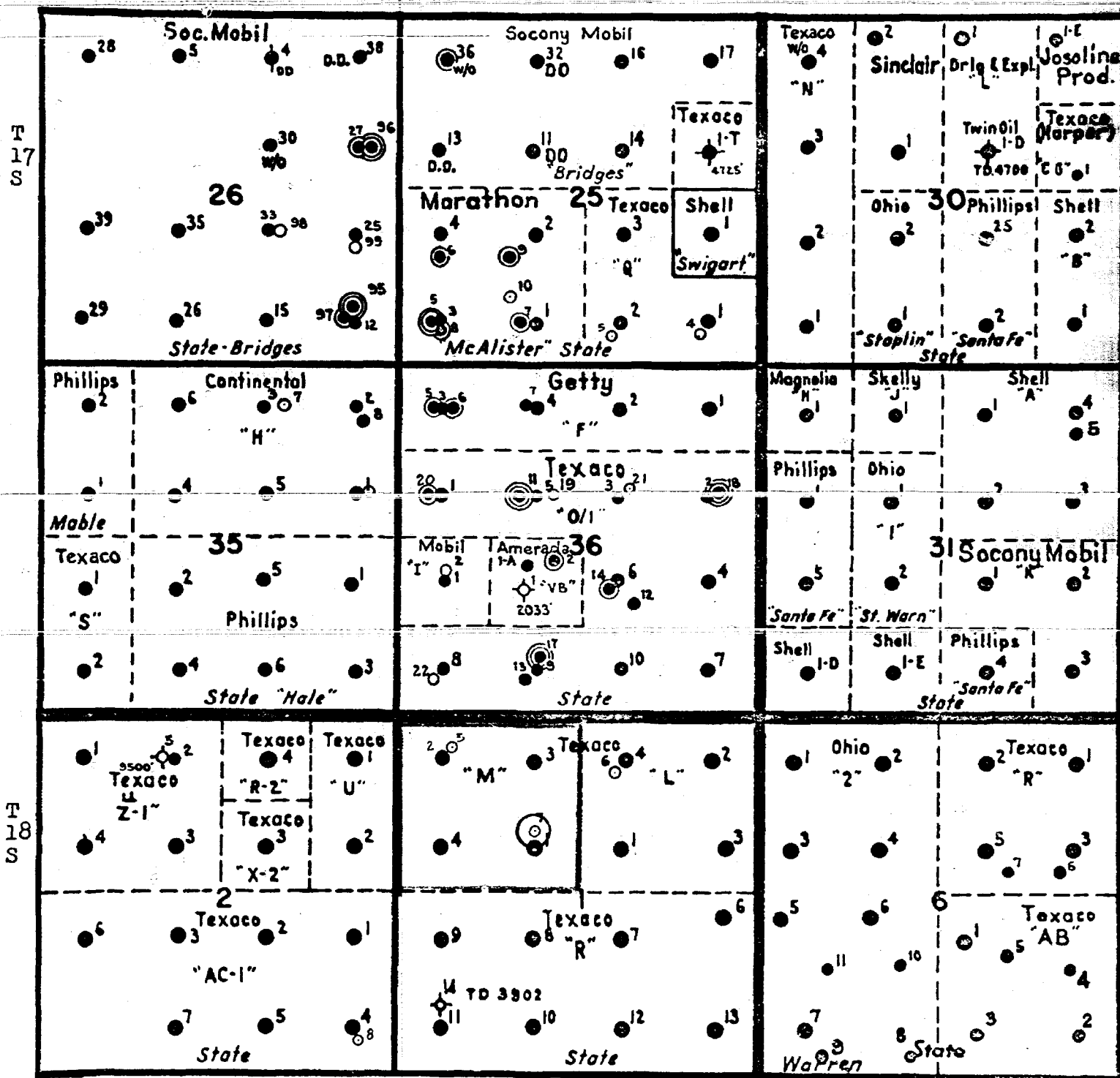
Signature

- * Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

2931

R-34-E

R-35-E



TEXACO INC.
VACUUM POOLS AREA 1 : 8 NW 62 100 8951
LEA COUNTY, NEW MEXICO
SCALE 1" = 2000

000 301310 NW11

DOCKET: EXAMINER HEARING - WEDNESDAY - NOVEMBER 6, 1963

9:00 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 2931: Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (tubingless) of its State of New Mexico "M" Well No. 7, located in Unit F of Section 1, Township 18 South, Range 34 East, Lea County, New Mexico, to produce oil from the Vacuum-Glorieta, Vacuum-Wolfcamp and Vacuum-Blinbry Pools through parallel strings of 2 7/8 inch casing cemented in a common well bore.
- CASE 2932: Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (tubingless) of its State of New Mexico "L" Well No. 6 located in Unit B of Section 1, Township 18 South, Range 34 East, Lea County, New Mexico, to produce oil from the Vacuum-Glorieta, Vacuum-Wolfcamp and Vacuum-Blinbry Pools through parallel strings of 2 7/8 inch casing cemented in a common well bore.
- CASE 2933: Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (tubingless) of its State of New Mexico "M" Well No. 5, located in Unit D of Section 1, Township 18 South, Range 34 East, Lea County, New Mexico, to produce oil from the Vacuum-Glorieta, Vacuum-Wolfcamp and Vacuum-Blinbry Pools through parallel strings of 2 7/8 inch casing cemented in a common well bore.
- CASE 2934: Application of Coastal States Gas Producing Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of an unorthodox location for its Ainsworth Well No. 1 located 660 feet from the South line and 1980 feet from the East line of Section 22, Township 9 South, Range 33 East, Flying "M" Abo Pool, Lea County, New Mexico.

ir/

Tex 293/

TEXACO

INC. MAIN OFFICE OCC

PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT

MIDLAND DIVISION



OCT 23 AM 8:14

P. O. BOX 218
MIDLAND, TEXAS

October 21, 1963

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

Dear Jim:

Attached are our letters requesting that hearings be set for the purpose of considering our applications for triple tubingless completions for the State of New Mexico "M" Wells No. 5 and 7 and State of New Mexico "L" Well No. 6, vacuum (Glorieta, Blinobry, and Wolfcamp) Pools, Lea County, New Mexico. You will recall our telephone conversation of October 18, concerning these applications. These letters are submitted as a follow up to that conversation.

Thank you for your time and efforts concerning this matter. I will be looking forward to seeing you in Santa Fe in the very near future.

Yours very truly,

C. R. Black

C. R. Black
Petroleum Engineer

CRB-MM
Attach.

DOCKET MAILED

Date 10-25-63

Deerco. 2931

Heard. 11-6-63

Rec. 11-6-63

1. Hunt Texas request for triple completion
(Subsingles) for its. H. of X. The. 11-6-63
F-1-185-34E.

2. Lenticular or Turboligen shall be used at
least 100' above & before all producing
formations with a mud cement.

Thos. G. Alf

3. All oil completion in Texas -
Glorieta, Blinney, Wolfcamp.

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. 2931
Order No. R-2599

APPLICATION OF TEXACO INC.
FOR A TRIPLE COMPLETION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 6, 1963, at Santa Fe, New Mexico, before 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 13th day of November, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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 authority to complete its State of New Mexico "M" Well No. 7, located in Unit F of Section 1, Township 18 South, Range 34 East, RMPM, Lea County, New Mexico, as a triple completion (tubingless) to produce oil from the Vacuum-Glorieta, Vacuum-Blinbry, and Vacuum-Wolfcamp Pools through parallel strings of 2 7/8-inch casing cemented in a common well bore.

(3) That the mechanics of the proposed triple completion are feasible and in accord with good conservation practices.

(4) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Texaco Inc., is hereby authorized to complete its State of New Mexico "M" Well No. 7, located in

-2-

CASE No. 2931
Order No. R-2599

Unit F of Section 1, Township 18 South, Range 34 East, NMPN, Lea County, New Mexico, as a triple completion (tubingless) to produce oil from the Vacuum-Glorieta, Vacuum-Blinahry, and Vacuum-Wolfcamp Pools through parallel strings of 2 7/8-inch casing cemented in a common well bore.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

PROVIDED FURTHER, That the applicant shall take some segregation tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Vacuum-Wolfcamp Pool.

(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

E. S. Walker
E. S. WALKER, Member

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

esr/

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:

CASE No. 2931

Order No. R- 2599

APPLICATION OF TEXACO INC.
FOR A TRIPLE COMPLETION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

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NOW, on this day of November, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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 authority to complete its State of New Mexico "M" Well No. 7, located in Unit F of Section 1, Township 18 South, Range 34 East, NMPM, Lea County, New Mexico, as a triple completion (tubingless) to produce oil from the Vacuum-Glorieta, Vacuum-Wolfcamp, and Vacuum-Blinebry Pools through parallel strings of 2 7/8-inch casing cemented in a common well bore.

(3) That the mechanics of the proposed triple completion are feasible and in accord with good conservation practices.

(4) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Texaco Inc., is hereby authorized to complete its State of New Mexico "M" Well No. 7, located in Unit F of Section 1, Township 18 South, Range 34 East, NMPM, Lea County, New Mexico, as a triple completion (tubingless) to produce oil from the Vacuum-Glorieta, Vacuum-Wolfcamp, and Vacuum-Blindery Pools through parallel strings of 2 7/8-inch casing cemented in a common well bore.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

PROVIDED FURTHER, That the applicant shall take zone segregation tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Vacuum-~~Blindery~~ ^{Wolfcamp} Pool.

(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.

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico

Oil Conservation Commission



**LAND COMMISSIONER
C. E. JOHNNY WALKER
MEMBER**

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

P. O. BOX 671
SANTA FE

November 13, 1963

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

Re: Case No. 2931
Order No. R-2599
Applicant:
TEXACO INC.

Dear Sirs

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

15/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC**Astec OCC** _____

OTHER _____

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 6, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco Inc. for a triple
completion, Lea County, New Mexico.

Case No. 2931

Application of Texaco Inc. for a triple
completion, Lea County, New Mexico.

Case No. 2923

Application of Texaco Inc. for a triple
completion, Lea County, New Mexico.

Case No. 2933

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

1963 NOV 11 PM 5:10
MAIN OFFICE OCC

DEARNLEY-MEIER REPORTING SERVICE, Inc.

SANTA FE, N. M.
PHONE 325-1162

ALBUQUERQUE, N. M.
PHONE 243-6691

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE , NEW MEXICO

REGISTER

HEARING DATE NOVEMBER 6, 1963 TIME: 9 A.M.

[illegible]

DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

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

MR. UTZ: The hearing will come to order, please.

The first case on the docket will be 2931.

MR. DURRETT: Application of Texaco Inc. for a triple completion, Lea County, New Mexico.

MR. KELLY: William Booker Kelly of Gilbert, White, and Gilbert, Santa Fe, appearing on behalf of Texaco. The three cases, 2931 through 33, are all similar, and we would move that they be consolidated for testimony.

MR. UTZ: Cases 2931, 2932, 2933 will be consolidated for the purpose of taking testimony. Separate orders will be written on each case.

MR. KELLY: We have one witness.

MR. DURRETT: If you will rise, I'll swear you in now.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1, 2, 2a, 2b, 3 and 4 marked for identification.)

D. M. WILLIAMS

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

DIRECT EXAMINATION

BY MR. KELLY:

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

A I am D. M. Williams. I am District Petroleum Engineer with Texaco Inc. in Hobbs, New Mexico.



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

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

Q Have you previously testified before this Commission?

A No, I have not.

Q Would you give the Examiner your educational and professional background?

A I have a Bachelor of Science degree in Petroleum Engineering from the University of Texas in 1950. I have been employed as a Petroleum Engineer since graduation; for the past five years I have been employed as Petroleum Engineer for Texaco Inc.

Q Does your professional experience give you working familiarity with the three wells involved here?

A Yes, it does.

MR. KELLY: Are the witness' qualifications acceptable?

MR. UTZ: Yes, they are.

Q (By Mr. Kelly) Could you tell us what Texaco seeks by these three applications; and refer to Exhibit 1.

A Texaco seeks approval for triple, tubingless, completions of the State of New Mexico "M" Well No. 5, which is located, referring to Exhibit 1, in Unit D, 560 feet from the north line and 760 feet from the west line, Section 1, Township 18 South, Range 34 East, Lea County; and for State of New Mexico "M" Well No. 7, located in Unit F, 1800 feet from the north line, 1980 feet from the west line, Section 1, Township 18 South, Range 34 East, Lea County; and also State of New Mexico "L" Well No. 6 located in Unit B, 770 feet from the north line, 2090 feet from



the east line, Section 1, Township 18 South, Range 34 East, Lea County; all three of these wells seeking triple tubingless completions in the Vacuum-Glorieta, Vacuum-Blinebry, and Vacuum-Wolfcamp Fields.

MR. UTZ: All are within the horizontal limits of these pools?

A Yes, sir.

Q (By Mr. Kelly) Could you give us the present status of the three subject wells?

A State of New Mexico "M" Well No. 7 has been drilled to a total depth of 12,220 feet. It has been equipped with three strings of 2-7/8ths inch OD.

MR. UTZ: Do you have diagrammatic sketches for these?

A Yes, sir, we plan to present these as an additional exhibit.

MR. UTZ: Why don't you hand them out now so we can kind of follow you.

MR. KELLY: Diagrammatic sketch of "M"-7 is covered on Applicant's Exhibit No. 2.

A As I mentioned, "M"-7 has been drilled to a total depth of 12,220 feet and has been equipped with three strings of 2-7/8ths inch OD casing set, installed as indicated on the diagram in Exhibit 2. The Wolfcamp zone has been perforated with selected perforations between the depths of 9967 feet to 10,043 feet.

This zone has been stimulated, tested, and potential tested.

DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

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



The other two proposed zones in the "M" No. 7 have not yet been perforated for completion.

Q (By Mr. Kelly) You might as well go on to explain the installation that you propose on this well.

A Additional work proposed on "M" No. 7 is perforation for completion in the Glorieta zone for an oil completion, estimated perforations between 6211 feet, 6231 feet; and perforations for an oil completion in the Blinbry zone, estimated perforations between 6840 feet to 6850 feet. At the present time the Wolfcamp zone is the only one which has been completed in the "M" No. 7.

Q Let's go on to what I have marked 2-a, which is the New Mexico "L" No. 6, and give the present status in reference to that well, and what you propose to do there.

A The State of New Mexico "L" Well No. 6 has been drilled to a total depth of 12,255 feet. It has installed three strings of 2-7/8ths inch casing, as indicated on the sketch. Completion attempts have been made in one of the strings of casing, as indicated on the diagram, first in the Morrow zone in the interval from 11,218 feet to 11,234 feet. This zone proved to be non-productive. The perforations were squeezed with cement.

The next completion attempt in this string of 2-7/8ths inch casing was made in the Atoka zone through perforations 10,872 feet to 10,878 feet. This zone proved to be non-productive. A cast iron bridge plug was set in the 2-7/8ths inch casing string

DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

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



at 10,790 feet above the non-productive Atoka perforations. This plug was capped with 20 feet of hydromite on top of the plug.

The next zone which was tried for completion was the Pennsylvanian through perforations 10,210 feet to 10,220 feet. This zone was non-productive and was squeezed with cement. Completion attempt in this same string of 2-7/8ths inch casing was then attempted in the North Abo zone through perforations 9246 feet to 9317 feet. This zone was found to be non-productive and was squeezed with cement.

No additional work has been performed in this string of 2-7/8ths inch casing at this time.

Completion perforations were then made in the Wolfcamp zone in the second string of 2-7/8ths inch casing indicated on the diagram. The Wolfcamp interval has been perforated and initially stimulated, and preliminary testing has been made through these perforations, 9939 feet to 9964 feet; and finally at this point the Blinbry zone in the third string of 2-7/8ths inch casing has been perforated from the interval 6684 feet to 6697 feet, and at this time we are in the process of stimulating and testing for a completion in the Blinbry zone.

The State of New Mexico "L" Well No. 6 was originally planned as a triple completion in the Vacuum-Wolfcamp, Pennsylvanian and Devonian formations. The initial plan was for a combination tubingless conventional completion, utilizing two parallel strings of 2-7/8ths inch OD casing for the Wolfcamp and Pennsylvanian

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General Court Reporting Service

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



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

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

formations and a parallel string of 3-1/2 inch casing with 1-1/2 inch tubing for the Devonian. This original application was set for hearing, Case No. 2826, which was heard on June 5th, 1963, and the application was approved by Order No. R-2505.

The proposed Pennsylvanian and Devonian formations were found to be non-productive upon completion of drilling of this well. Therefore, the completion intervals have now been changed to the Glorieta, Blinebry, and Wolfcamp.

Q Now referring to what has been marked Exhibit 2-b, which covers the "M" Well No. 5, will you give me the present status and proposed installation?

A State of New Mexico "M" Well No. 5 has been drilled to a total depth of 12,115 feet. It has installed three strings of 2-7/8ths inch CD casing. The Wolfcamp zone has been perforated, stimulated; and initial completion testing has been performed through perforations 9938 to 9960.

Completion attempt has been made in the second string of 2-7/8ths inch casing in the North Abo zone through perforations 9,068 to 9,214. This interval was found to be non-productive. Those perforations have been squeezed with cement.

At this time additional work in that string of casing has not been done, and it is planned to perforate in this string of casing for Blinebry completion, estimated interval 6741 to 6843.

The third string of 2-7/8ths inch casing, the Glorieta zone has been perforated with selected perforations in the interval



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6,076 feet to 6,094 feet. Initial stimulation and initial completion testing is now being performed in this zone.

Q Exhibit No. 3 is a breakdown of the crude characteristics for this field in the three zones. Will you comment on that, especially in relation to any expected corrosion or paraffin problems?

A This is referred to Exhibit 3 now?

Q Yes.

A Exhibit 3 tabulates crude characteristics of the Vacuum-Glorieta, Vacuum-Blinbry, Vacuum-Wolfcamp Pools. The Vacuum-Glorieta type of crude is intermediate sweet. API gravity of the crude --

Q If it's okay with the Examiner, we don't have to read all the figures into the record. They do represent the crude characteristics of the three pools?

A Yes, sir, that is correct, they do represent the crude characteristics of the three pools. Commenting on the characteristics or the items listed in the exhibit, our experience with other completions has indicated there are no corrosion problems with the fluids produced from these three reservoirs. Paraffin has been indicated to be only very slight. We do not anticipate any problems with corrosion or paraffin in these three proposed completion intervals.

Q You haven't run into any particular paraffin problems in this field in these zones?



A No, sir, in the wells completed, in Texaco's wells completed so far in these reservoirs in the Vacuum Pool, we have not been bothered with any problems.

Q What steps could Texaco take if they did encounter paraffin problems?

A The paraffin as indicated would be only slight and is not severe enough to prevent it from being moved mechanically should the paraffin problem necessitate treatment or removal when zones have to be artificially lifted. The Wolfcamp zone is planned to be artificially lifted when needed with hydraulic pumping equipment, which would permit circulation of heated fluids to dissolve the paraffin.

Q Texaco has received approval in this field for these three zones in other combinations, haven't they?

A Yes, sir. All three of these zones have been completed and approved for completion as tubingless multiple completions in other wells in other combinations other than this particular combination.

Q Could you give the Examiner in your expert opinion some of the proposed advantages of this system over the conventional triple completion?

A Compared to the conventional triple completion, there would be large advantage in cost of the wells, the tubingless triple being considerably less expensive than the conventional. Another advantage in this case of the tubingless triple completion

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compared to conventional triple completion would be that if at a later date it were necessary to perform any work on any one of the three completions, there would be a minimum of interruption or interference with production from the other two zones.

Q You have logs on each of these wells, don't you?

A Yes, sir.

Q You might just read them into the record.

A Exhibit No. 4, Case No. 2931, is a gamma ray sonic log of Texaco Inc. State of New Mexico "M" Well No. 7, which has marked on the log tops and bases of the formations, and perforated intervals, and estimated or anticipated perforated intervals for the three zones.

Exhibit No. 4 marked for Case No. 2932 is a gamma ray acoustic log on Texaco Inc. State of New Mexico "L" Well No. 6 on which are marked the tops and bases of the anticipated producing reservoir, and also marked are perforated intervals and anticipated perforated intervals.

Exhibit No. 4, Case No. 2933, is a gamma ray sonic log on Texaco Inc. State of New Mexico "M" Well No. 5 on which has been marked tops and bases of formations, and also has been marked perforated intervals and anticipated perforated intervals.

Q In your opinion would the granting of this application prevent economic waste and duplication of expense?

A Yes, sir, it would.

Q Were the eight exhibits entered prepared by you or under



your supervision?

A Under my supervision, yes, sir.

MR. KELLY: We move the introduction of the exhibits.

MR. UTZ: Without objection the Exhibits 1, 2, 2-a, 2-b, and Exhibit 3, and three Exhibit 4's will be entered into the case.

(Whereupon, Applicant's Exhibits Nos. 1, 2, 2-a, 2-b, 3, and three Exhibit 4's admitted in evidence.)

MR. KELLY: I have no further questions at this time.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Williams, I note that you are going to have to pump the Blinbry. What kind of pumping equipment do you propose to use?

A Mr. Examiner, we propose to install rod pump.

Q Can you use a rod pump satisfactorily in 2-7/8th-inch casing?

A Yes, sir, that has been our experience in this type of completion.

Q Do you propose to use the same type of pumping equipment in the other zones when they have to be pumped?

A We propose at this time to use the rod-type pump in the Glorieta zone at such time as it has to be pumped; and we propose to use hydraulic pumping equipment in the deeper Wolfcamp

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Q Some at such time as it has to be pumped.

A I believe you have completed the Wolfcamp zone in each of these wells, is that correct?

A We have completed, and officially potential tested the Wolfcamp zone in "W" No. 7, and we have completed and done initial testing of the Wolfcamp zone in "W"-5 and "L"-6. We have not taken or submitted the official potential test of the Wolfcamp zone in either the "W"-5 or the "L"-6 as yet.

Q Did you use turbilizers or centralizers above or below the producing formation on each of the strings of casing?

A Yes, sir, centralizers were used over all of the producing zones in these wells, yes, sir.

Q How far above and below each zone did you use it?

A A minimum of 150 feet above and below.

Q And the cement is circulated back up into the 9-5/8ths in each of these wells?

A Yes, sir. If you would refer, please, to the diagrammatic sketches, I don't recall what our number is now, but the cement used is indicated in the top left-hand corner.

Q That shows the actual cement program rather than the centralizers used for each of these wells?

A Yes, this is the actual cement program that was used for each of the wells. In the case of "W" No. 7, the top of the cement as determined by temperature survey was at 1720 feet from the surface. On "L" No. 6, the top of the cement as indicated by



temperature survey was found to be at 2490 feet from the surface; and on "M" No. 5 cement was actually circulated to the surface on that well.

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

The witness may be excused.

(Witness excused.)

MR. UTZ: Any other statements in this case? The case will be taken under advisement.

* * * *

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

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 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 7th day of November, 1963.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 29,31-32-33 heard by me on *Nov 6* 1963.
Shirley G. [Signature] Examiner
New Mexico Oil Conservation Commission

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