



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

February 9, 1981

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Texaco Inc.
Drawer 728
Hobbs, New Mexico 88240

Attention: J. V. Gannon

Re: W. H. Rhodes "B" NCT-1
Well No. 19, Unit I,
Section 26, T26S, R37E
Lea County, New Mexico
WFX-454

Dear Mr. Gannon:

Based upon information supplied by your letter of January 13, 1981, the maximum authorized wellhead injection pressure for the subject well is hereby increased to 2000 psi.

No action will be taken on the request for pressure increases on Wells Nos. 16 and 17 until either step rate tests are run on said wells or there is some other demonstration that the 1750 psi requested will not result in fracturing of the confining strata.

Yours very truly,

JOE D. RAMEY
Director

JDR/RLS/fd



PETROLEUM PRODUCTS

RECEIVED
JAN 13 1981
OIL CONSERVATION DIVISION
SANTA FE

TEXACO INC.
DRAWER 728
HOBBS, NEW MEXICO 88240

January 13, 1981

ORDER WFX NO. 454

RHODES "B" FEDERAL COOPERATIVE WATERFLOOD
LEA COUNTY, NEW MEXICO

Case 2748 (copy)
Case 4271 (EX)
Case 3086 2748

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

Texaco respectfully requests approval to increase the maximum wellhead injection pressure to 1750 psi in Texaco's W. H. Rhodes "B" Federal NCT-1 Wells No. 16 and 17 and to 2000 psi in Texaco's W. H. Rhodes "B" Federal NCT-1 Well No. 19.

Step-rate tests were recently conducted on W. H. Rhodes "B" Federal NCT-1 Wells No. 9 and 19. The fracture pressure for the Yates formation was determined to correspond to wellhead pressures of 1773 psi and 2043 psi, respectively, at injection rates of 210 BWPD and 795 BWPD, respectively.

The procedure for conducting these step-rate tests was as follows:

- 1.) Injection was shut-in to allow bottom hole pressure to approach formation pressure.
- 2.) Injection was resumed with surface pressures at various injection rates recorded. Injection was held constant at each rate for 15 minutes. The pressure at the end of each 15-minute period was used in determining the fracture pressure.

State of New Mexico
Energy & Minerals Department

- 2 -

January 13, 1981

A copy of the chronological data and a graphical presentation of the pressures vs. injection rates are attached. The fracture rate and pressure were determined by extrapolation of the linear rate vs. pressure relationship above and below the fracture pressure to their intersection. The intersection of the two lines is interpreted as the fracture rate and pressure.

A plat of the Texaco Rhodes "B" Federal Cooperative Waterflood showing the wells on which step-rate tests were conducted and the wells on which we request the increase in maximum injection pressure is attached. Injection at maximum permissible rates will provide high operating efficiency, ensure that all pay zones are properly flooded, and maximize recovery of reserves from this project.

The requested 1750 psi and 2000 psi pressure limits will provide a margin of safety below the measured fracture pressures. Your early consideration will be appreciated.

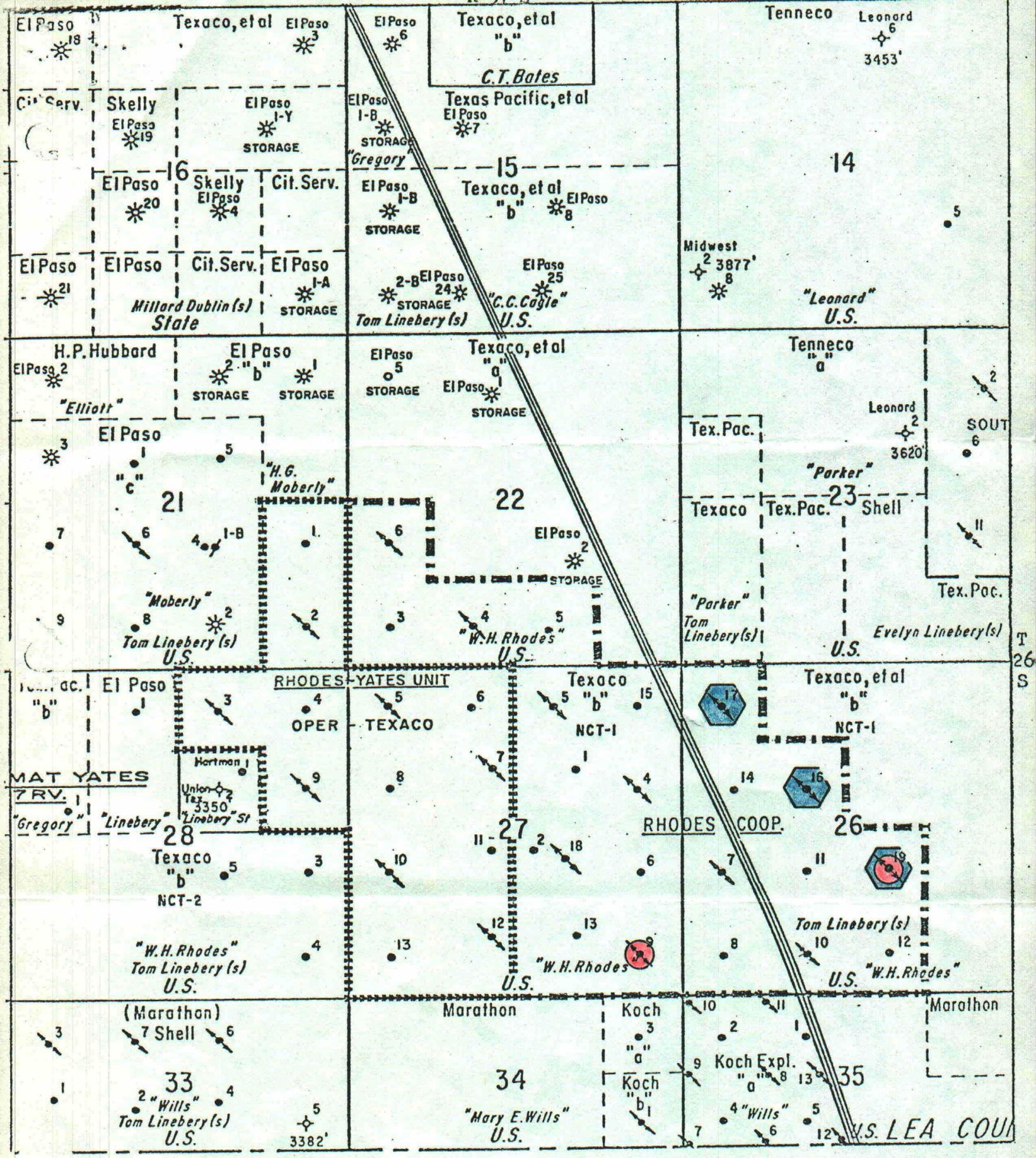
Yours very truly,

TEXACO INC.
PRODUCING DEPARTMENT-WEST U. S.


J. V. Gannon
District Superintendent

RJB:JEB

Attachments



-  STEP RATE TEST WELLS
-  WELLS TO INCREASE MAX. INJ. PRESS.

TEXACO Inc.
 RHODES YATES UNIT & RHODES COOP.
 RHODES YATES FIELD
 LEA COUNTY, NEW MEXICO
 Scale: 1" = 2000'

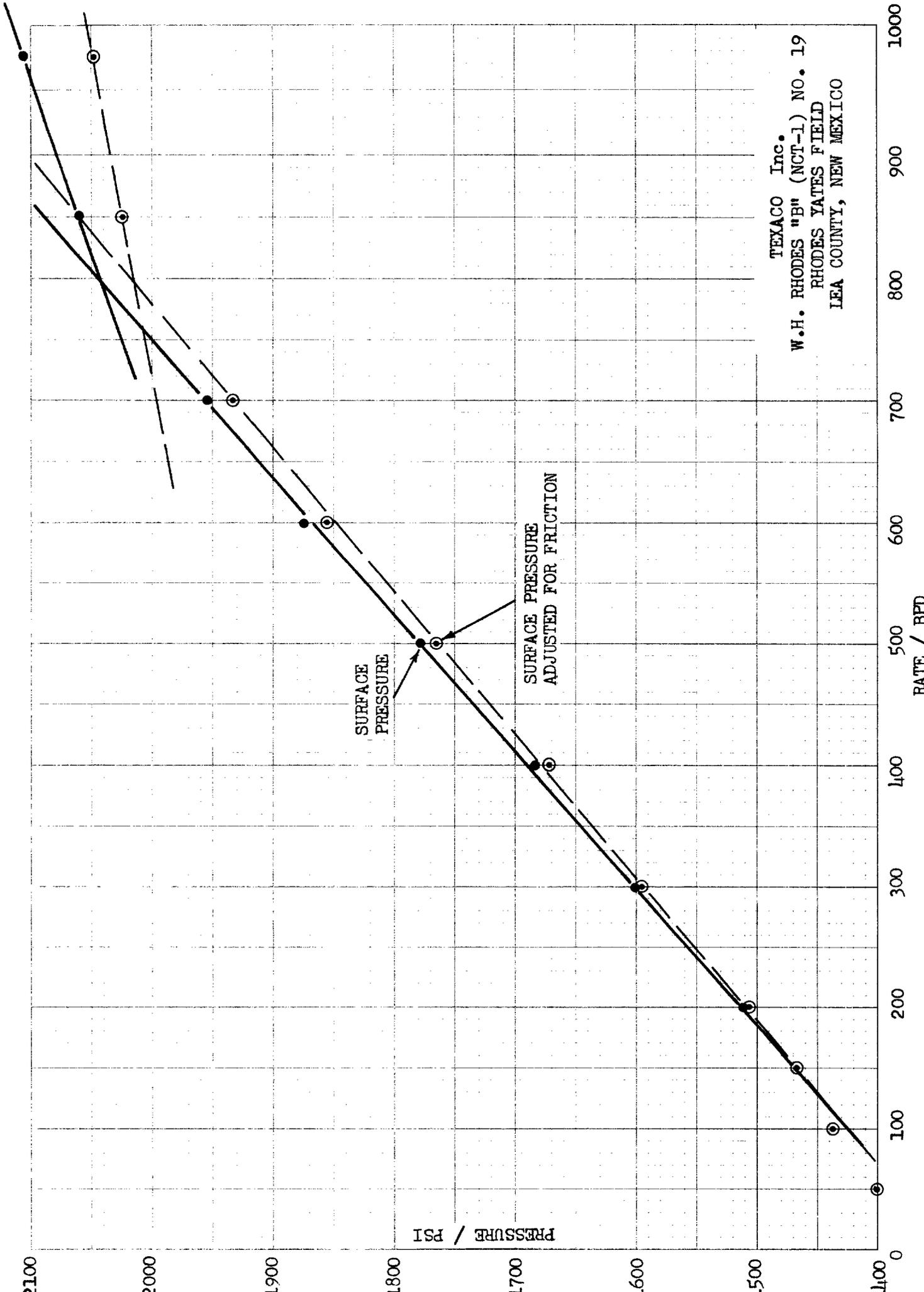
TEXACO INC.
W. H. RHODES "B" (NCT-1) NO. 9
RHODES YATES FIELD

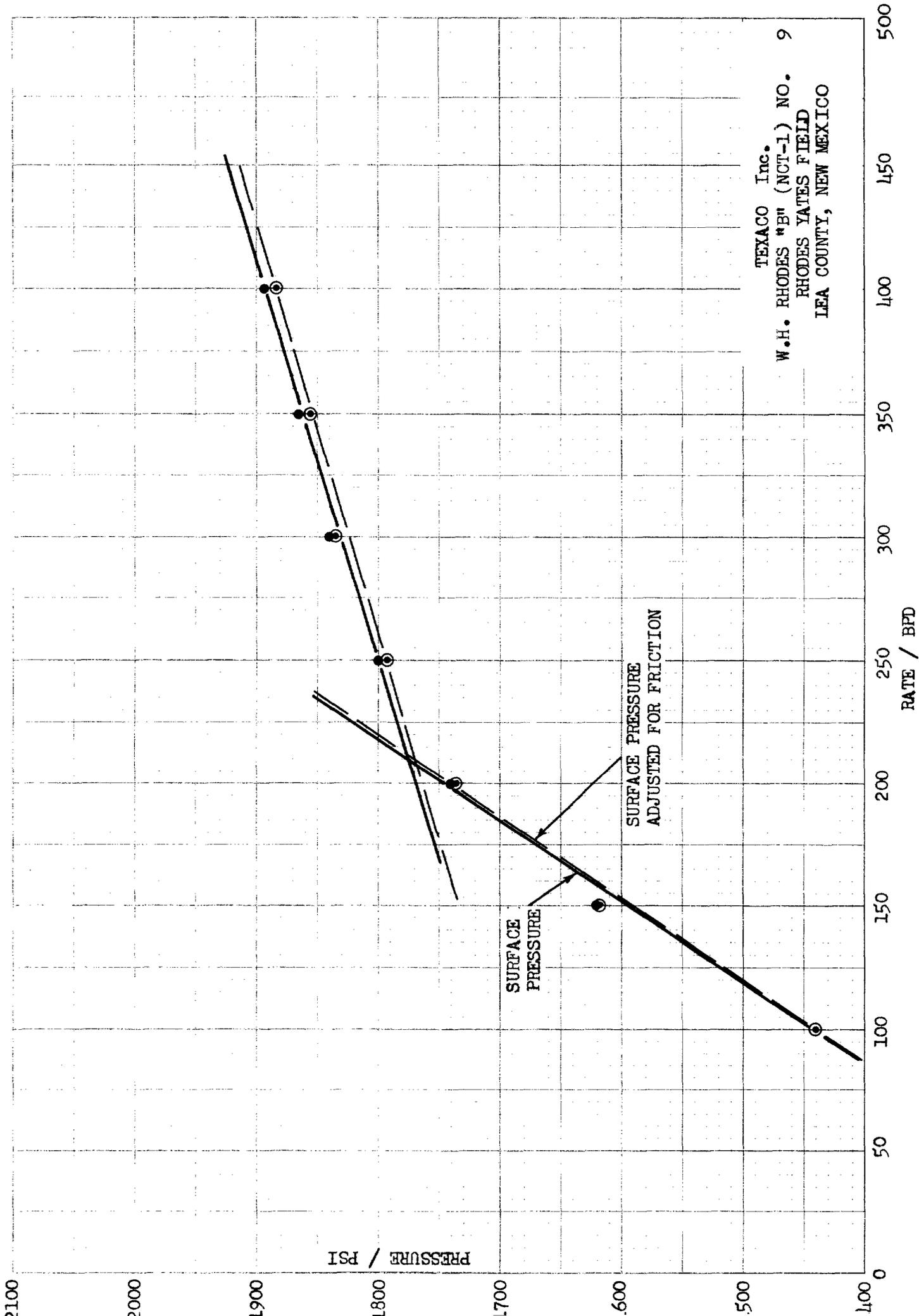
<u>RATE/BPD</u>	<u>SURFACE PRESSURE, PSI</u>	<u>SURFACE PRESSURE, PSI ADJUSTED FOR FRICTION</u>
100	1440	1440
150	1620	1619
200	1738	1736
250	1800	1796
300	1840	1836
350	1865	1857
400	1892	1983

TEXACO INC.
W. H. RHODES "B" (NCT-1) NO. 19
RHODES YATES FIELD

<u>RATE/BPD</u>	<u>SURFACE PRESSURE, PSI</u>	<u>SURFACE PRESSURE, PSI ADJUSTED FOR FRICTION</u>
50	1403	1403
100	1440	1439
150	1470	1468
200	1510	1507
300	1600	1594
400	1684	1674
500	1779	1765
600	1877	1857
700	1957	1932
850	2060	2024
975	2105	2059

TEXACO Inc.
W.H. RHODES "B" (NCT-1) NO. 19
RHODES YATES FIELD
LEA COUNTY, NEW MEXICO





TEXACO Inc.
W.H. RHODES #2 (NCT-1) NO. 9
RHODES YATES FIELD
LEA COUNTY, NEW MEXICO



PETROLEUM PRODUCTS

August 23, 1977

TEXACO INC.
DRAWER 728
HOBBS, NEW MEXICO 88240

ORDER WFX NO. 454

Rhodes "B" Federal Cooperative Waterflood
Lea County, New Mexico

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

ATTENTION: MR. JOE D. RAMEY
SECRETARY-DIRECTOR

Gentlemen:

TEXACO INC. respectfully requests an amendment to the above order to allow water injection into W. H. Rhodes "B" Federal NCT-1 Wells No. 16, 17 and 19 at surface injection pressures exceeding 640 psi, provided that TEXACO demonstrates that such higher pressures will not result in fracturing of the confining strata. The proposed amendment of this order is in accordance with other recent New Mexico Oil Conservation Commission orders for water injection.

Yours very truly,

J. V. Gannon
J. V. Gannon

District Superintendent

WRH:las

AUG 25 1977
NEW MEXICO OIL
CONSERVATION COMMISSION
SANTA FE

*5/11/77
Conservation Commission
Santa Fe
5/11/77 Texaco has not
or filed data required.*

