

APPLICATION FOR WATERFLOOD  
TOTAH GALLUP POOL  
TENNECO OIL COMPANY

INJECTION WELL DATA SHEET

PROPOSED INJECTION WELL	TD	CASING SIZE	DEPTH SET	CEMENT USED	CEMENT TOP*	STAGE COLLAR SETTING	PERFORATED INTERVAL
USA Glenn H. Callow No. 10	5331	4-1/2"	5260	240 sx	4030	1351 50 sx	5195-5210 **
USA Glenn H. Callow No. 13	5308	4-1/2"	5278	185 sx	3700	1400 50 sx	5235-5245
USA Glenn H. Callow No. 16	5278	4-1/2"	5275	190 sx	3930	1350 50 sx	5114-5122
USA Glenn H. Callow No. 18	5679	4-1/2"	5675	190 sx	4340	1750 50 sx	5613-5621
USA Glenn H. Callow No. 19	5693	5-1/2"	5693	190 sx	3725	1748 50 sx	Notch @ 5628
Hagood Gallup Oil Unit No. 1	5245	4-1/2"	5245	100 sx	4600	1280 50 sx	5136-37 5143-46 5186-90

\* All cement tops determined by temperature survey

\*\* Original perms 5087-98, 5108-24, 5140-5210  
Squeeze cemented 5087-5195 with 85 sacks; tested to 1500 psi

## CLASS OF SERVICE

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

# WESTERN UNION

## TELEGRAM

W. P. MARSHALL, PRESIDENT

## SYMBOLS

DL=Day Letter

NL=Night Letter

LT=International  
Letter Telegram1220  
R-4-60JAN 5 PM 12 46  
The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt at point of destination

A032 KB089

K DRA020 LONG PD=DURANGO COLO 5 1154A MST=  
=NEW MEXICO OIL CONSERVATION COMMISSION=  
PO BOX 871 SANTA FE NMEX=

*Case 2484*

TENNECO OIL COMPANY HEREBY APPLIES FOR PERMISSION  
TO CONDUCT A WATER FLOOD OPERATION IN THE TOTAL  
GALLUP POOL IN SAN JUAN COUNTY, NEW MEXICO. WE  
PROPOSE TO INJECT WATER ON OUR GLENN H CALLOW LEASE  
IN SECTIONS 27, 28 AND 33, T. 29 N., R. 13 W., SAN  
JUAN COUNTY, NEW MEXICO. WE PROPOSE THAT THE WATER BE  
INJECTED INTO THE GALLUP FORMATION AT APPROXIMATE  
DEPTH OF 5200-5700 FEET, AND AT A RATE OF 5000 BWPD.  
WE REQUEST THAT THIS APPLICATION BE SET FOR A HEARING  
IN JANUARY, 1962, IF POSSIBLE. WE WILL SUBMIT THE  
DATA AS REQUIRED BY RULE NO. 701 AND CONFIRM OUR  
APPLICATION WITH A LETTER TO FOLLOW=

TENNECO OIL COMPANY BY L B PLUMB=

TOTAL 27 28 33 T 29 N R 13 W 5200-5700 5000 BWPD 1962 701.

*Bochet*  
*Miller*

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

## EXHIBIT NO. 2

APPLICATION FOR WATERFLOOD  
TOTAH GALLUP POOL  
TENNECO OIL COMPANY

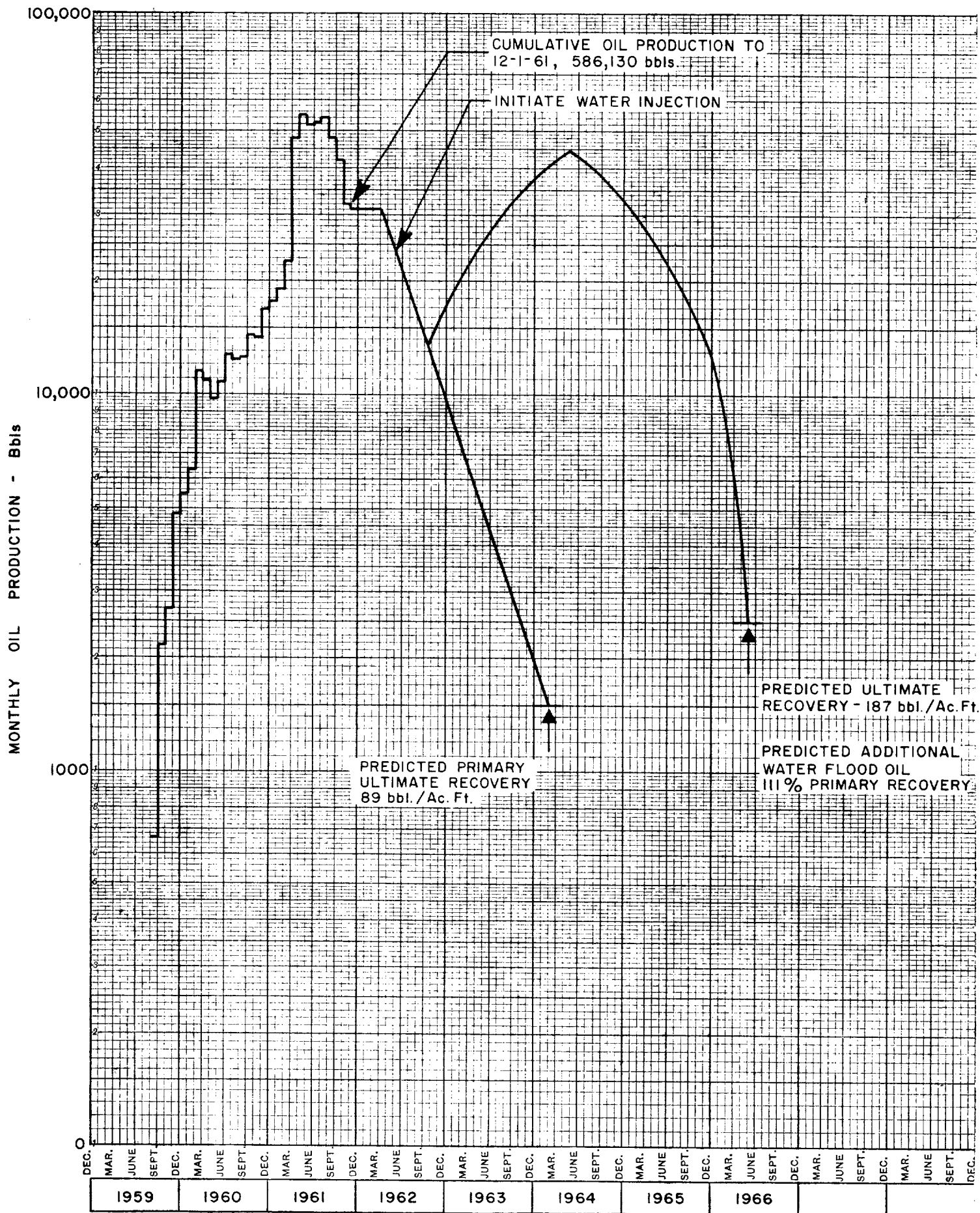
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**EXHIBIT No. 4**  
**TENNECO OIL COMPANY**  
 SUBSIDIARY OF TENNECO CORPORATION  
 TOTAH GALLUP FIELD  
 SAN JUAN COUNTY, NEW MEXICO  
 PROPOSED WATER FLOOD  
 ACTUAL AND PREDICTED PRODUCTION HISTORY

EXHIBIT NO. 3

RESERVOIR AND ROCK PROPERTIES  
TENNECO OIL COMPANY  
GLENN H. CALLOW LEASE  
TOTAH GALLUP FIELD  
SAN JUAN COUNTY, NEW MEXICO

Reservoir Properties

Original BHP	1610 psig
Saturation Pressure	1463 psig
Original Solution GOR	615 cu.ft./STB
Gravity of Residual Oil @ 60° F.	41° API
Original RVF	1.37
BHP as of 12-1-61	800 psig
GOR @ 800 psig producing	3,000 cu.ft./STB
RVF @ 800 psig	1.28

Rock Properties

Porosity, percent	14.2
Permeability, Md. Aug.	143
Connate Water Saturation (EST.), percent	25
Residual Oil Saturation (EST.), percent	28

Producing Mechanism

Volumetric Depletion

CASE 2484: Application of Tenneco Oil Company for a pressure maintenance project in the Totah-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a pressure maintenance project in the Totah-Gallup Oil Pool by the injection of water into the Gallup formation on its Glenn H. Callow Lease in Sections 27, 28 and 33, Township 29 North, Range 13 West, San Juan County, New Mexico. Applicant further proposes the promulgation of special rules and regulations to govern the operation of said project.

CASE 2485: Application of Union Oil Company of California for approval of the Red Tank Unit Agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Red Tank Unit Agreement embracing 3,680 acres, more or less, of Federal lands in Sections 14, 15, 22, 23, 26, 27 and 28, Township 22 South, Range 32 East, Lea County, New Mexico.

CASE 2486: Application of Union Oil Company of California for permission to take interference tests and transfer allowables, Anderson Ranch-Wolfcamp Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to take interference tests and to transfer allowables between eight wells in the Anderson Ranch-Wolfcamp Pool located in Sections 28 and 33, Township 15 South, Range 32 East, Lea County, New Mexico.