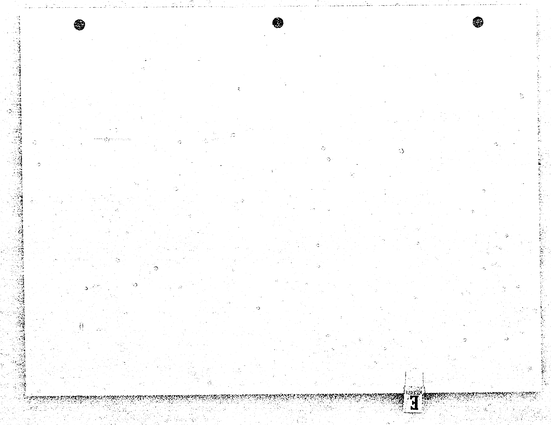
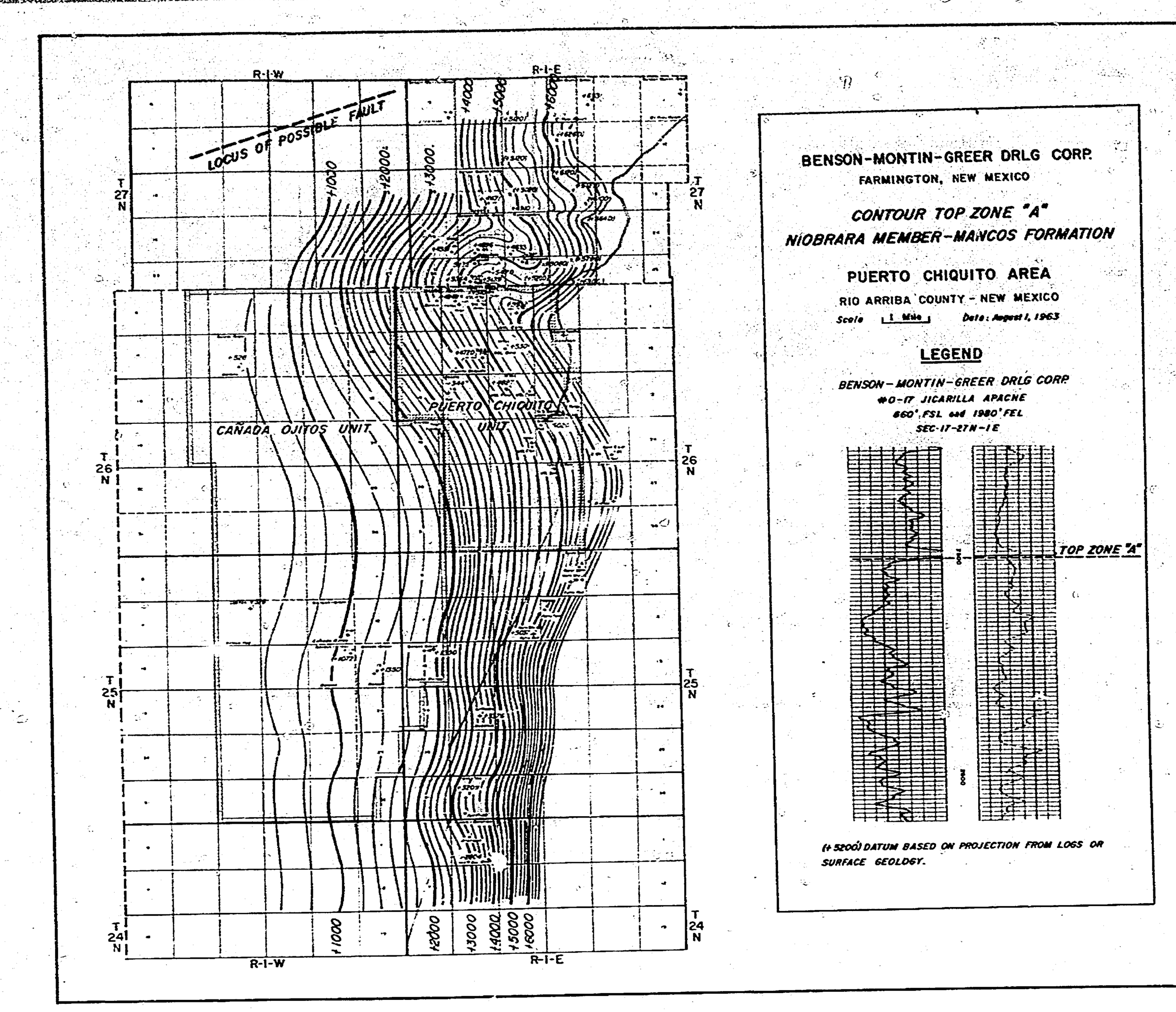
Case No.

2881

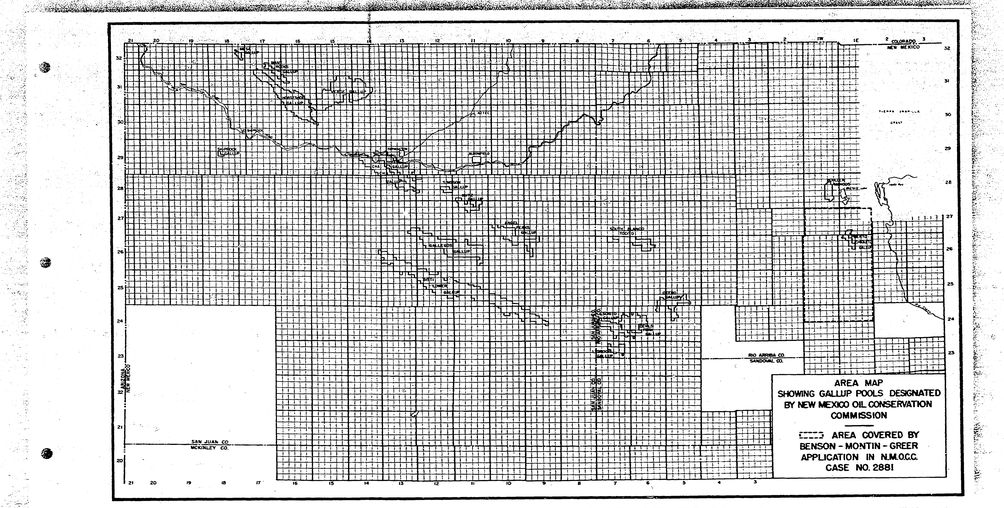
Large Exhibits

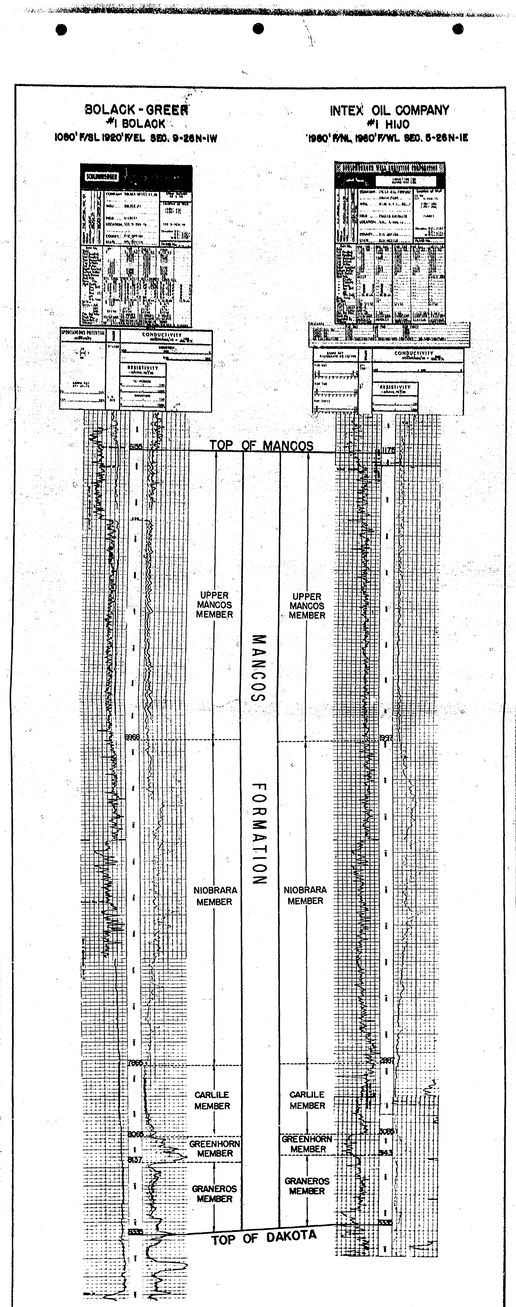




N.M.O.C.D. MICROGRAPHICS
BEST AVAILABLE COPY

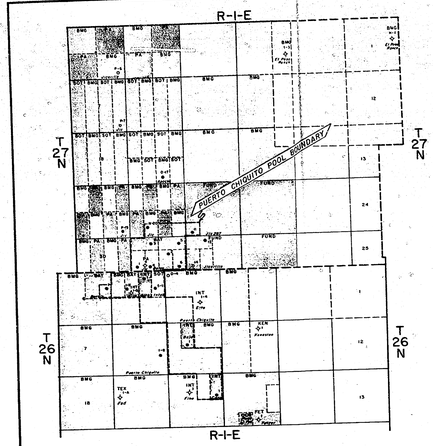
R-1-W
R-1-E
T 27 N
T 26 N
T 25 N
T 24 N
CANADA OJITOS UNIT
PUERTO CHIQUITO UNIT
AREA UNDER WHICH THE NIOBRARA PRESSURE AT TOP OF ZONE "X" CANNOT EXCEED 150 PSIG
APPROXIMATE INTERSECTION OF 4600' DATUM-SEA LEVEL REFERENCE-WITH NIOBRARA MEMBER FROM ZONE "X" TO BASE. PRESSURE AT TOP OF ZONE "X" IS ZERO PSIG
MAP OF AREA
COVERED BY APPLICATION
N.M.O.C.C. CASE NO. 2881
VICINITY OF PUERTO CHIQUITO POOL
RIO ARRIBA COUNTY - NEW MEXICO
PRODUCTIVE AREA - EXTENT OF DEVELOPMENT - CURRENT DRILLING ACTIVITY
LEGEND
WELL IN PRODUCING STATUS
WELL SURVEYED, DRILLING, OR COMPLETION STATUS
WELL INDICATING POSSIBILITY OF PRODUCTION OR WITH SIGNIFICANT SHOW OF OIL
PRESENT BOUNDARY OF PUERTO CHIQUITO POOL DESIGNATED BY N.M.O.C.C.
BENSON-MONTIN-GREER DRLG CORP.
FARMINGTON, NEW MEXICO
SCALE 1 INCH = AUGUST 1, 1963
VERTICAL SECTION
4600 DATUM
TOP ZONE "X"
BASE OF NIOBRARA


COLORADO
NEW MEXICO
SAN JUAN CO.
MCKINLEY CO.
RIO ARRIBA CO.
SANDOVAL CO.
AREA MAP
SHOWING GALLUP POOLS DESIGNATED
BY NEW MEXICO OIL CONSERVATION
COMMISSION
AREA COVERED BY
BENSON - MONTIN - GREER
APPLICATION IN N.M.O.C.C.
CASE NO. 2881



LEGEND

SECTIONS OF TYPICAL LOGS
SHOWING FORMATION TOPS OF MANCOS AND DAKOTA
AND
MEMBERS OF MANCOS FORMATION



LAND MAP
OF
PART OF PUERTO CHIQUITO AREA

RIO ARRIBA COUNTY - NEW MEXICO

LEASE OWNERSHIP

AREA OF SMALL TRACTS

- BENSON-MONTIN-GREER DRLG CORP. - LEASE OR OPTION
- PAN AMERICAN PETROLEUM CORP.
- R.L. BAYLESS
- E.L. FUNDINGSLAND
- INTEX OIL CO.
- HAROLD O'CONNOR

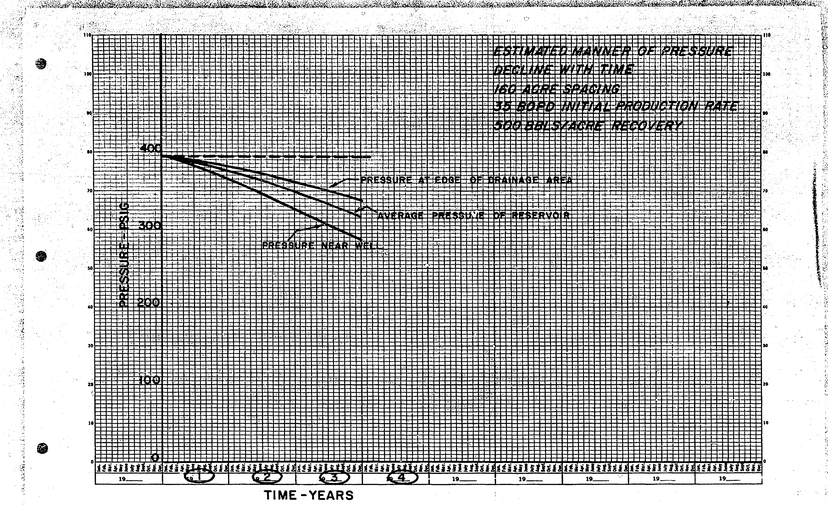
ABBREVIATIONS

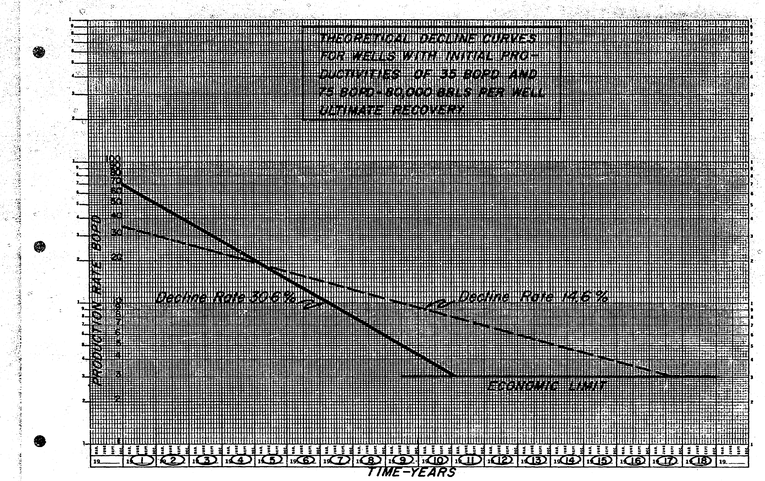
BMG - BENSON-MONTIN-GREER DRLG CORP.
PA - PAN AMERICAN PETROLEUM CORP.
SOT - STANDARD OIL COMPANY OF TEXAS
BAY - R.L. BAYLESS
FUND - E.L. FUNDINGSLAND
INT - INTEX OIL CO.
KEN - DOUGLAS KENASTON
OCR - HAROLD O'CONNOR
FET - J.H. FETZER

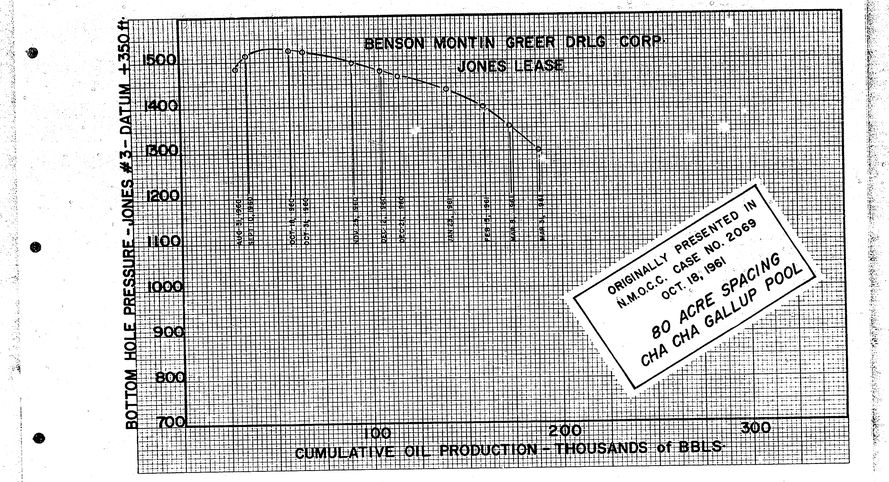
BENSON-MONTIN-GREER DRLG CORP.

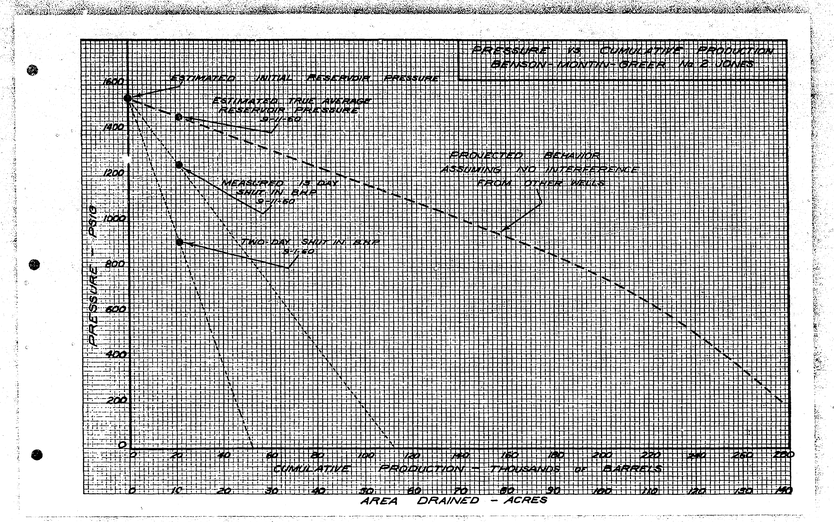
FARMINGTON - NEW MEXICO

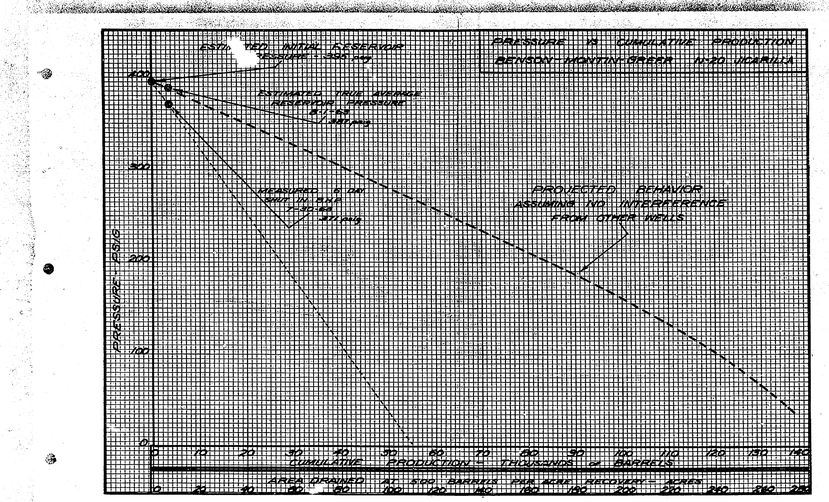
Scale 1 Mile August 12, 1963

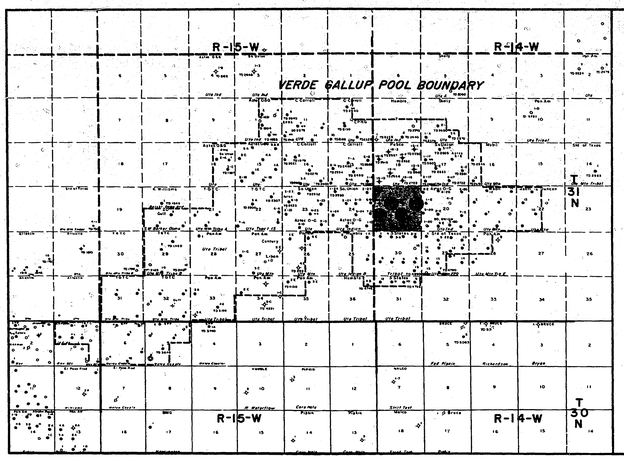

ESTIMATED MANNER OF PRESSURE DECLINE WITH TIME
160 ACRE SPACING
35 BOPD INITIAL PRODUCTION RATE
500 BBLS/ACRE RECOVERY
PRESSURE - PSIG
400
300
200
100
0
PRESSURE AT EDGE OF DRAINAGE AREA
AVERAGE PRESSURE OF RESERVOIR
PRESSURE NEAR WELL
19__
1
2
3
4
19__
19__
19__
19__
19__
TIME - YEARS


TYPE PETROLEUM DECLINE CURVES FOR WELLS WITH INITIAL PRODUCTIVITIES OF 35 BOPD AND 75 BOPD - 80,000 BBLS PER WELL ULTIMATE RECOVERY.
PRODUCTION RATE BOPD
Decline Rate 30.6%
Decline Rate 14.6%
ECONOMIC LIMIT
TIME-YEARS


BENSON MONTIN GREER DRLG CORP.
JONES LEASE
ORIGINALLY PRESENTED IN
N.M.O.C.C. CASE NO. 2069
OCT. 18, 1961
80 ACRE SPACING
CHA CHA GALLUP POOL
BOTTOM HOLE PRESSURE - JONES #3 - DATUM +350 ft.
1500
1400
1300
1200
1100
1000
900
800
700
100
200
300
CUMULATIVE OIL PRODUCTION - THOUSANDS of BBLS.


PRESSURE VS. CUMULATIVE PRODUCTION
BENSON-MONTIN-GREER NO. 2 ZONES
ESTIMATED INITIAL RESERVOIR PRESSURE
ESTIMATED TRUE AVERAGE RESERVOIR PRESSURE
MEASURED 13 DAY SHUT IN BHP
TWO DAY SHUT IN BHP
PROJECTED BEHAVIOR ASSUMING NO INTERFERENCE FROM OTHER WELLS
PRESSURE - PSIG
1600
1400
1200
1000
800
600
400
200
0
0 20 40 60 80 100 120 140 160 180 200 220 240 260
CUMULATIVE PRODUCTION - THOUSANDS OF BARRELS
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
AREA DRAINED - ACRES


PRESSURE VS CUMULATIVE PRODUCTION
BEHREN-HORTON SAND N-20 HORIZON
INITIAL RESERVOIR PRESSURE = 500 PSIG
ESTIMATED FINAL AVERAGE RESERVOIR PRESSURE
MEASURED PRESSURE
PROJECTED BEHAVIOR ASSUMING NO INTERFERENCE FROM OTHER WELLS
PRESSURE - PSIG
CUMULATIVE PRODUCTION IN BARRELS
AREA DRAINED AT 500 BARRELS PER ACRE RECOVERY - ACRES

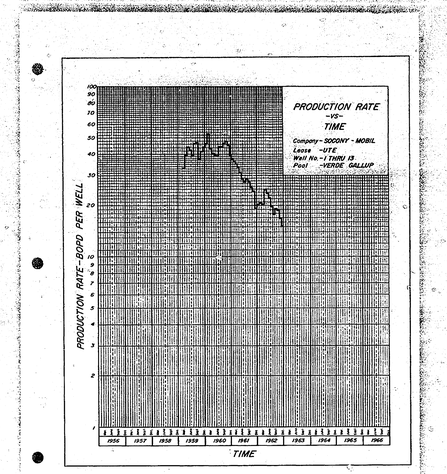


VERDE GALLUP POOL
SAN JUAN CO., N.M.

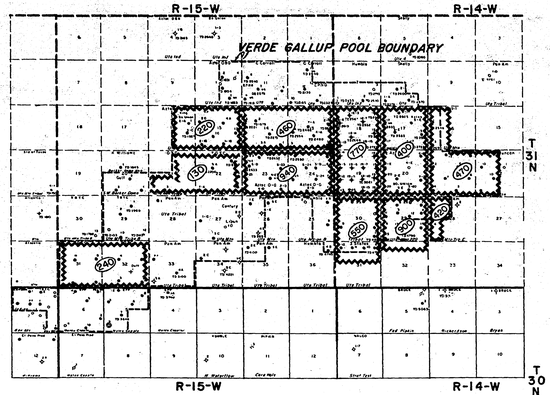
COMPARITIVE CUMULATIVE PRODUCTION
FOR
THE FIRST ELEVEN WELLS
AND
THE LAST FOUR WELLS
ON
PUBCO PETROLEUM CORP.
UTE MOUNTAIN LEASE
SEC. 19 T 31 N R 14 W

TIME OF PRODUCTION	OIL PRODUCTION BARRELS PER WELL FIRST ELEVEN WELLS	LAST FOUR WELLS
FIRST PRODUCTION TO ABANDONMENT	48203	25,893
FIRST PRODUCTION TO AUGUST 31, 1959	25,097	1,249
AUGUST 31, 1959 TO ABANDONMENT	23,606	24,644

BENSON-MONTIN-GREER DRLG. CORP.
DATE - AUGUST 1, 1963



U.S.G.S. GEOGRAPHIC
BEST AVAILABLE COPY

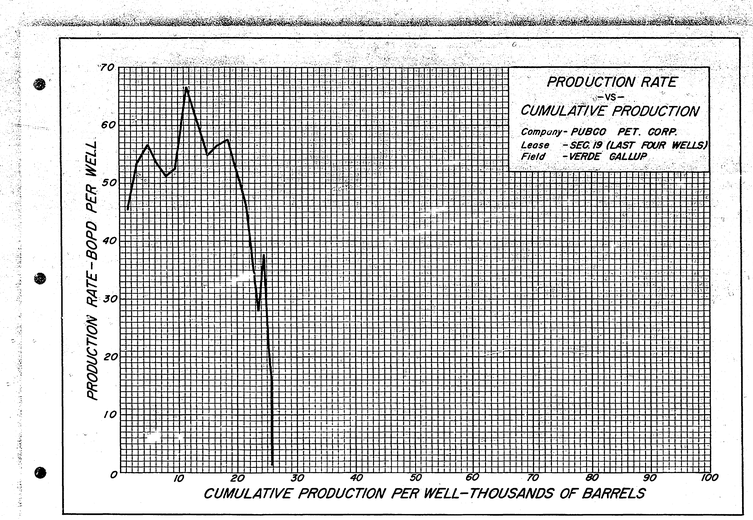


VERDE GALLUP POOL
SAN JUAN CO., N.M.

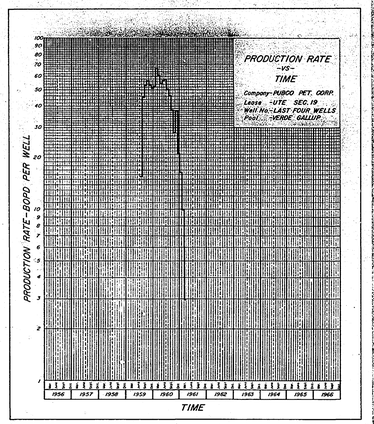
APPROXIMATE ULTIMATE OIL RECOVERIES FROM INDIVIDUAL TRACTS

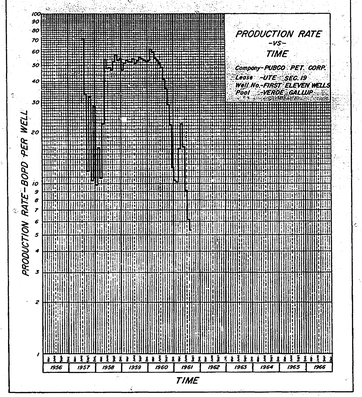
(490) – APPROXIMATE ULTIMATE PRODUCTION BARRELS PER ACRE

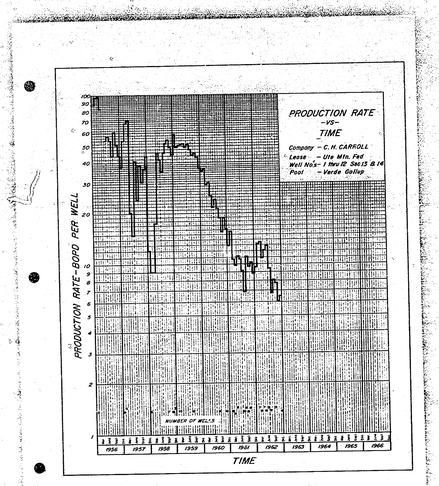
BENSON-MONTIN-GREER DRLG. CORP.
DATE - AUGUST 1, 1963

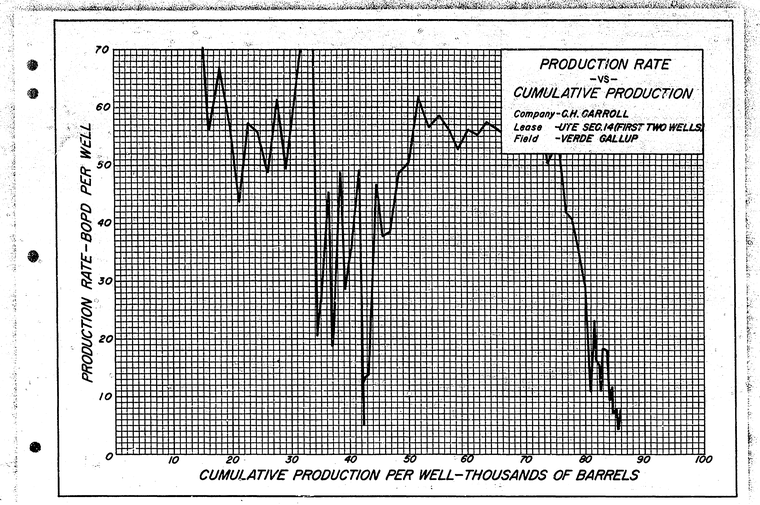


U.S.G.S. PHOTOGRAPHS
BEST AVAILABLE COPY

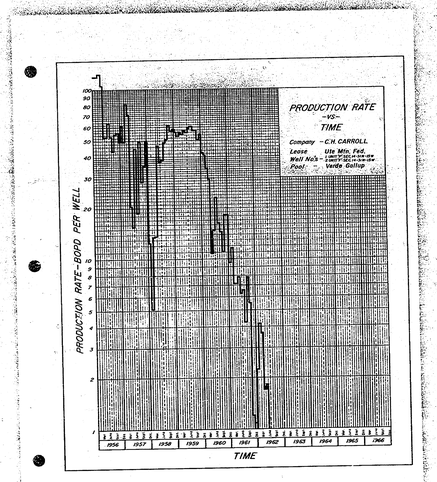

PRODUCTION RATE
-VS-
TIME
Company-DUBCO PET. CORP.
Lease -UTE SEC. 19
Well No.-LAST FOUR WELLS
Field -TERRY GALLUP
PRODUCTION RATE-BOPD PER WELL
90
80
70
60
50
40
30
20
10
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
TIME

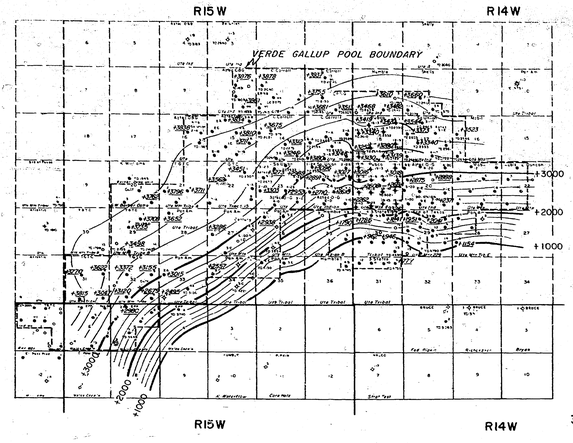

PRODUCTION RATE
-VS-
TIME
Company- PUBCO PET. CORP.
Lease -UTE - SEC. 19
Well No.-FIRST ELEVEN WELLS
Pool -VERDE (GALLUP)
PRODUCTION RATE- BOPD PER WELL
100
90
80
70
60
50
40
30
20
15
10
9
8
7
6
5
4
3
2
1
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
TIME


PRODUCTION RATE
-VS-
TIME
Company – C. H. CARROLL
Lease – Ute Mtn. Fed
Well Nos – 1 thru 12 Sec 13 & 14
Pool – Verde Gallup
PRODUCTION RATE-BOPD PER WELL
NUMBER OF WELLS
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
TIME



U.S.G.S. GEOLOGICAL
BEST AVAILABLE COPY


PRODUCTION RATE
-VS-
TIME
Company - C.H. CARROLL
Lease - Ute Mtn. Fed.
Well No's - 1-SWNE-32-33-26-RW
Pool - Verde Gallup
PRODUCTION RATE-BOPD PER WELL
TIME
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966

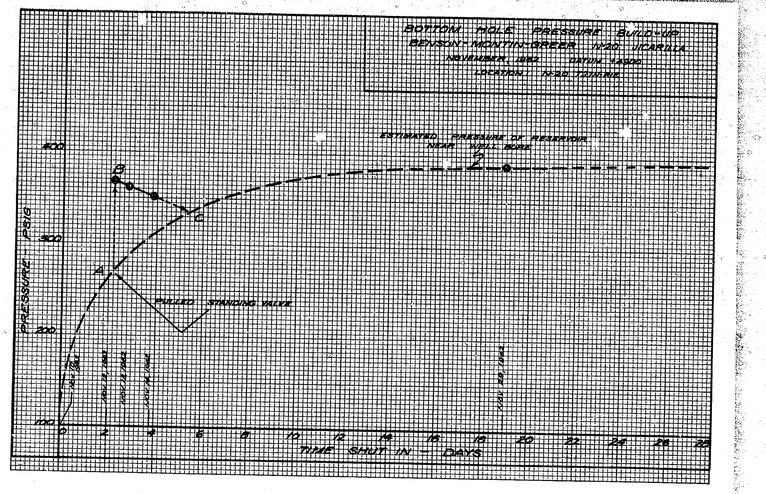


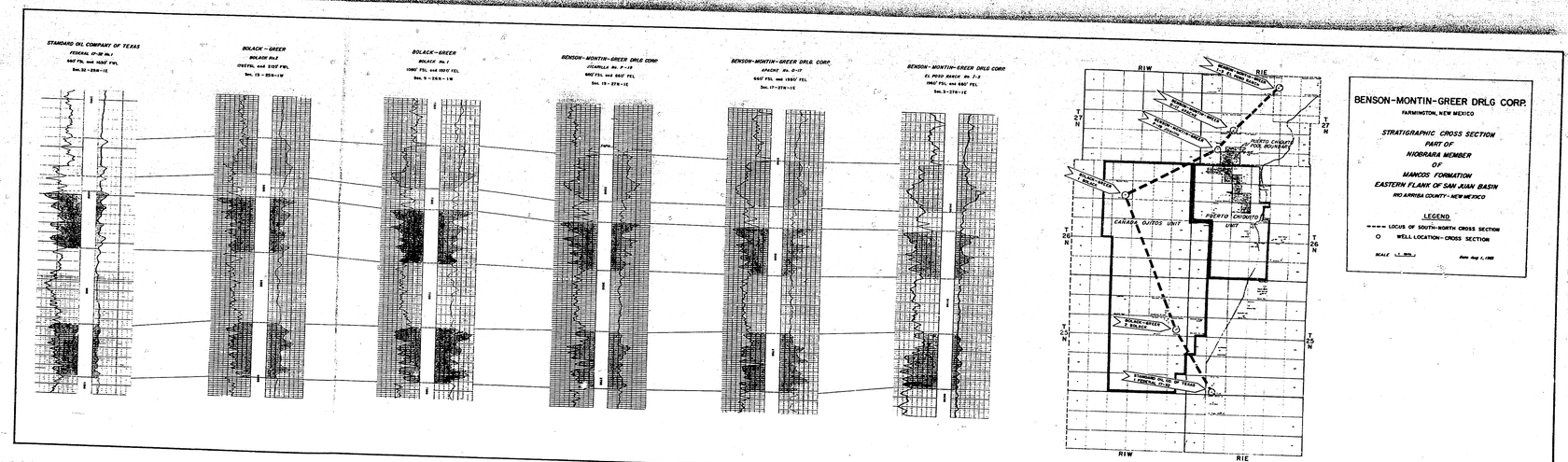
BENSON-MONTIN-GREER DRLG CORP.
FARMINGTON, NEW MEXICO

CONTOUR-TOP GALLUP PAY
VERDE GALLUP POOL

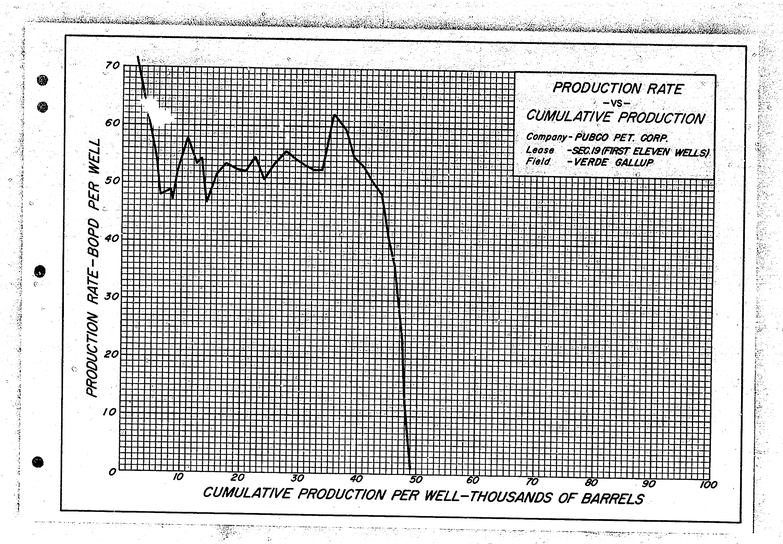
SAN JUAN COUNTY-NEW MEXICO

CONTOUR INTERVAL - 200 FT. SCALE 1 Mile
Date - August 1, 1963


BOTTOM HOLE PRESSURE BUILD-UP
BEHSON-MCATTIN-GREER HOLE-MCARTLE
NOVEMBER 1952 CAMP 1-2500
LOCATION N.W. PERKINS
ESTIMATED PRESSURE OF RESERVOIR
NEAR WELL BORE
PRESSURE PSIG
400
300
200
100
A
B
C
D
PULLED STANDING VALVE
TIME SHUT IN
TIME SHUT IN
TIME SHUT IN
TIME SHUT IN
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28
TIME SHUT IN - DAYS


STANDARD OIL COMPANY OF TEXAS
FEXRAL 17-28 No.1
660' FSL and 1650' FWL
Sec.32 - 25N - 1E
BOLACK - GREER
BOLACK No.2
1760'FSL and 330' FWL
Sec. 13 - 25N - 1W
BOLACK - GREER
BOLACK No. 1
1090' FSL and 1910' FEL
Sec. 9 - 25N - 1W
BENSON-MONTIN-GREER DRLG CORP
JICARILLA No. F-19
990'FSL and 660' FEL
Sec. 19 - 27N - 1E
BENSON-MONTIN-GREER DRLG CORP.
APACHE No. G-17
660' FSL and 1980' FEL
Sec. 17 - 27N - 1E
BENSON-MONTIN-GREER DRLG CORP.
EL POZO RANCH No. 7-3
1980' FSL and 660' FEL
Sec. 3 - 27N - 1E
R1W
R1E
T 27 N
T 26 N
T 25 N
STANDARD OIL OF TEXAS FEXRAL No. 32-25-1E
BOLACK No. 2
BOLACK No. 1
BENSON-MONTIN-GREER DRLG CORP. JICARILLA No. F-19
BENSON-MONTIN-GREER DRLG CORP. APACHE No. G-17
BENSON-MONTIN-GREER DRLG CORP. EL POZO RANCH No. 7-3
CANADA OJITOS UNIT
PUERTO CHIQUITO UNIT
BOLACK-GREER # BOLACK
STANDARD OIL OF TEXAS FEDERAL No. 28
BENSON-MONTIN-GREER DRLG CORP.
FARMINGTON, NEW MEXICO
STRATIGRAPHIC CROSS SECTION
PART OF
NIOBRARA MEMBER
OF
MANCOS FORMATION
EASTERN FLANK OF SAN JUAN BASIN
RIO ARRIBA COUNTY - NEW MEXICO
LEGEND
LOCUS OF SOUTH-NORTH CROSS SECTION
WELL LOCATION - CROSS SECTION
SCALE 1" = 1000'
Date Aug 4, 1960

U.S.G.S. TOPOGRAPHIC


PRODUCTION RATE
-vs-
CUMULATIVE PRODUCTION
Company - PUBCO PET. CORP.
Lease - SEC. 19 (FIRST ELEVEN WELLS)
Field - VERDE GALLUP
PRODUCTION RATE-BOPD PER WELL
0
10
20
30
40
50
60
70
10
20
30
40
50
60
70
80
90
100
CUMULATIVE PRODUCTION PER WELL-THOUSANDS OF BARRELS