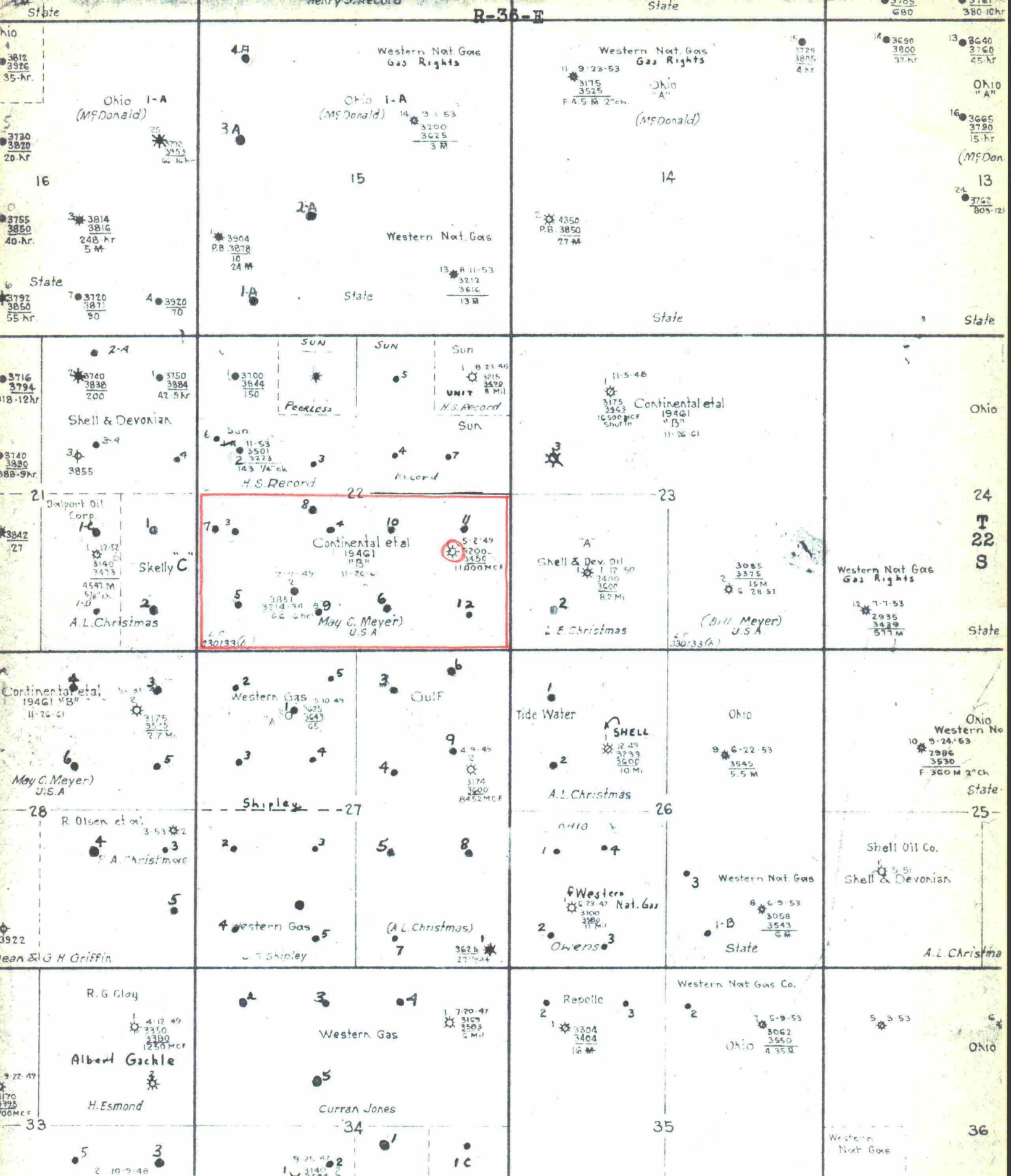
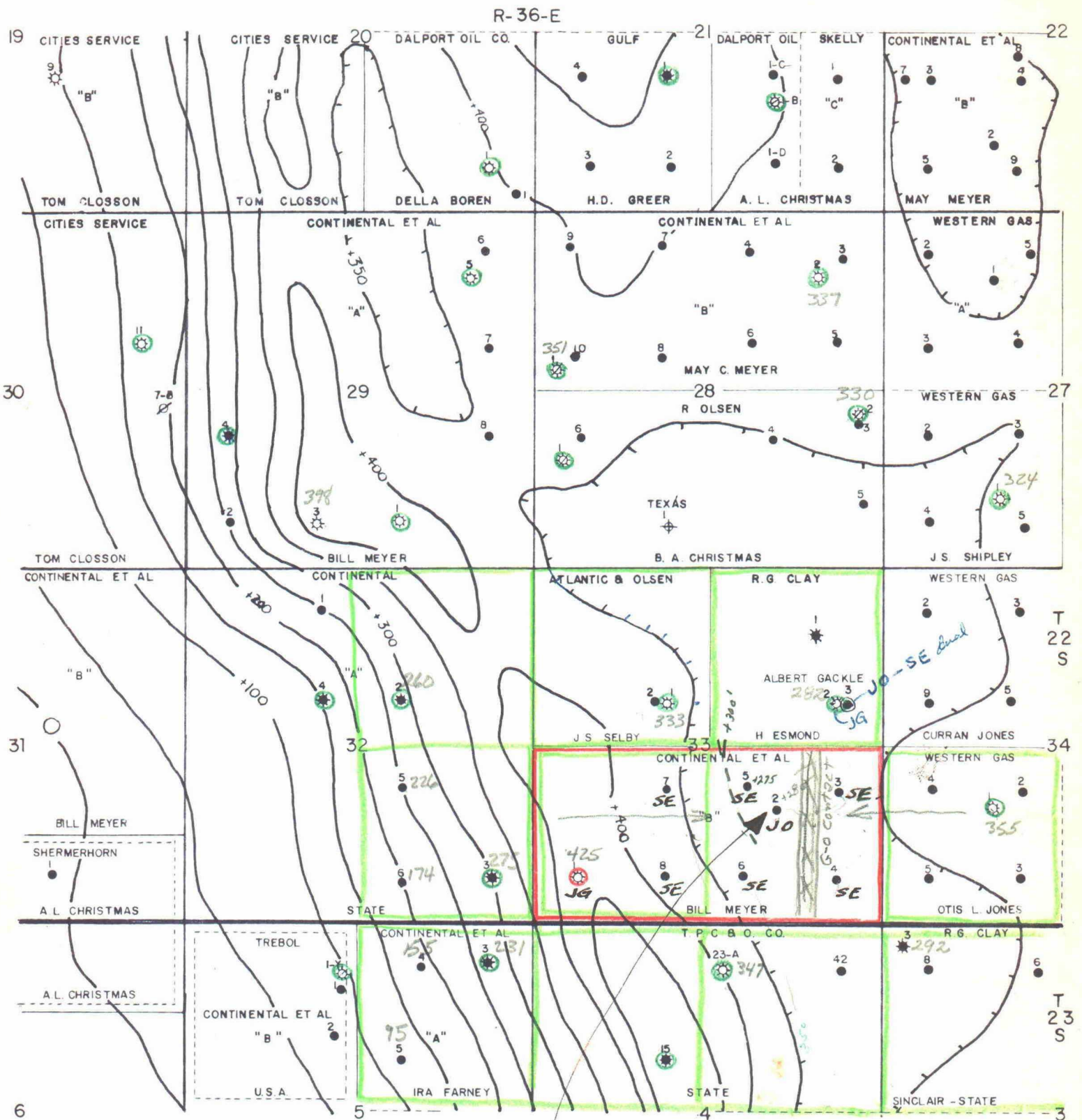






Contour Interval: 50'  
 Proposed Gas Unit —  
 Proposed Gas Unit Well ○  
 Jalmat Gas Well ○

— Existing Units

Scale 1" = 2000'

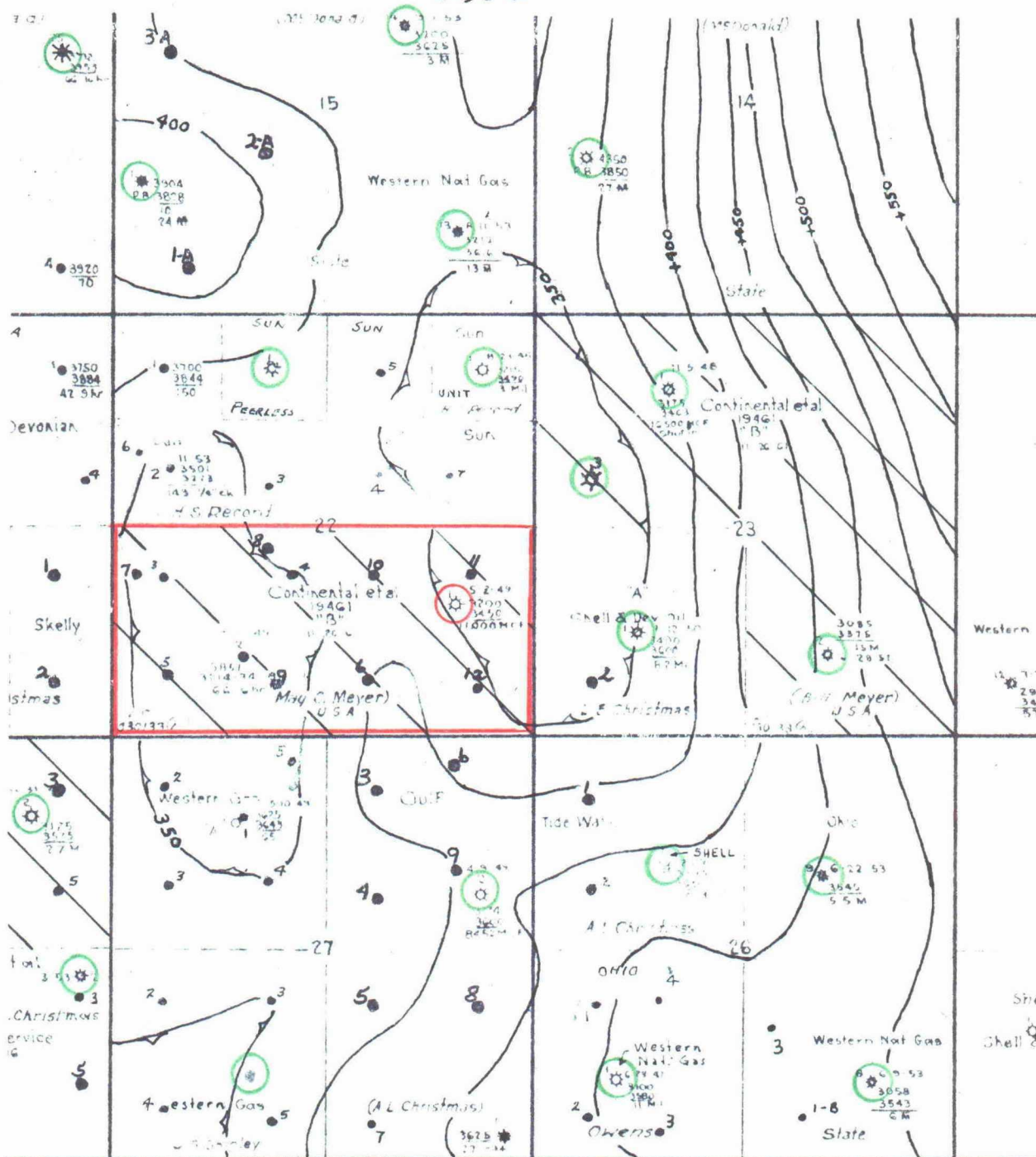
open base top of yates  
 thru 50' of SR; shot from  
 3210 - 3340 (top yates to  
 60' above top SR) latest test  
 10 BO OBW 133 MCF gas GOR  
 13,300 to 1 4-27-58

Exhibit No. \_\_\_\_\_  
 Case No. \_\_\_\_\_





R-36-E



STRUCTURAL CONTOUR PLAT  
JALMAT POOL

Contoured on top of Yates  
Contour Interval 25 feet  
Scale 1" = 2000'

BEFORE EXAMIN UTZ

OIL CONSERVATION COMMISSION

Cont. EXHIBIT NO. 2

CASE NO. 1515

Exhibit No.  
Case No.



NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates-Seven Rivers County Lea  
 Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 8-11/8-15-58  
 Company Continental Oil Company Lease Meyer B-22 Well No. 1  
 Unit I Sec. 22 Twp. 22 Rge. 36 Purchaser El Paso Nat. Gas Company  
 Casing 5 1/2 Wt. 14 I.D. 5.012 Set at 3088 Perf. O.H. 3088 To 3450  
 Tubing 1" Wt. Test I.D. Kobe Set at 3040' Perf. \_\_\_\_\_ To \_\_\_\_\_  
 Gas Pay: From 3038 To 3450 L 3088 xG .670 -GL 2069 Bar. Press. 13.2  
 Producing Thru: Casing X Tubing \_\_\_\_\_ Type Well Single  
 Date of Completion: 7-15-58 Packer None Single-Bradenhead-G. G. or G.O. Dual  
 Reservoir Temp. 900

OBSERVED DATA

Tested Through XXXXXX XXXXX (Meter) Type Taps Flange

| No. | Flow Data   |                |             |                      |           | Tubing Data |           | Casing Data |           | Duration of Flow Hr. |
|-----|-------------|----------------|-------------|----------------------|-----------|-------------|-----------|-------------|-----------|----------------------|
|     | (Line) Size | (Orifice) Size | Press. psig | Diff. h <sub>w</sub> | Temp. °F. | Press. psig | Temp. °F. | Press. psig | Temp. °F. |                      |
| SI  |             |                |             |                      |           |             |           | 725         |           | 72                   |
| 1.  | 4"          | 1.500          | 638         | 2.89                 | 80        |             |           | 638         |           | 24                   |
| 2.  | 4"          | 1.500          | 621         | 16.00                | 76        |             |           | 624         |           | 24                   |
| 3.  | 4"          | 1.500          | 598         | 44.89                | 74        |             |           | 608         |           | 24                   |
| 4.  | 4"          | 1.500          | 565         | 76.56                | 74        |             |           | 583         |           | 24                   |
| 5.  |             |                |             |                      |           |             |           |             |           |                      |

FLOW CALCULATIONS

| No. | Coefficient Flange (24-Hour) | $\sqrt{h_{wPf}}$ | Pressure psia | Flow Temp. Factor F <sub>t</sub> | Gravity Factor F <sub>g</sub> | Compress. Factor F <sub>pv</sub> | Rate of Flow Q-MCFPD @ 15.025 psia |
|-----|------------------------------|------------------|---------------|----------------------------------|-------------------------------|----------------------------------|------------------------------------|
| 1.  | 13.99                        | 43.38            |               | .9813                            | .9463                         | 1.062                            | 598                                |
| 2.  | 13.99                        | 100.72           |               | .9850                            | .9463                         | 1.064                            | 1,397                              |
| 3.  | 13.99                        | 165.61           |               | .9868                            | .9463                         | 1.064                            | 2,302                              |
| 4.  | 13.99                        | 210.37           |               | .9868                            | .9463                         | 1.060                            | 2,913                              |
| 5.  |                              |                  |               |                                  |                               |                                  |                                    |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
 Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
 P<sub>c</sub> 1.162 (1-e<sup>-s</sup>) .133  
 Specific Gravity Separator Gas .670  
 Specific Gravity Flowing Fluid None  
 P<sub>c</sub> 738.2 P<sub>c</sub> 344.9

| No. | P <sub>w</sub> psia | P <sub>t</sub> <sup>2</sup> | F <sub>c</sub> Q | (F <sub>c</sub> Q) <sup>2</sup> | (F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> ) | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup> | Cal. P <sub>w</sub> | P <sub>w</sub> /P <sub>c</sub> |
|-----|---------------------|-----------------------------|------------------|---------------------------------|------------------------------------------------------|-----------------------------|----------------------------------------------------------|---------------------|--------------------------------|
| 1.  | 651.2               | 424.1                       | .695             | .483                            | .06                                                  | 424.1                       | 120.8                                                    | 651.2               | 88.21                          |
| 2.  | 637.2               | 406.0                       | 1.62             | 2.62                            | .35                                                  | 406.3                       | 138.6                                                    | 637.4               | 86.34                          |
| 3.  | 621.2               | 385.9                       | 2.67             | 7.13                            | .95                                                  | 386.8                       | 158.1                                                    | 621.9               | 84.24                          |
| 4.  | 596.2               | 355.5                       | 3.38             | 11.42                           | 1.52                                                 | 357.0                       | 187.9                                                    | 597.5               | 80.84                          |
| 5.  |                     |                             |                  |                                 |                                                      |                             |                                                          |                     |                                |

Absolute Potential: 8,200 MCFPD; n 1.000  
 COMPANY Continental Oil Company  
 ADDRESS Box 68, Eunice, New Mexico  
 AGENT and TITLE \_\_\_\_\_  
 WITNESSED \_\_\_\_\_  
 COMPANY \_\_\_\_\_

REMARKS

Slope greater than 1.0, therefore, 1.0 slope drawn through highest point.

## INSTRUCTIONS

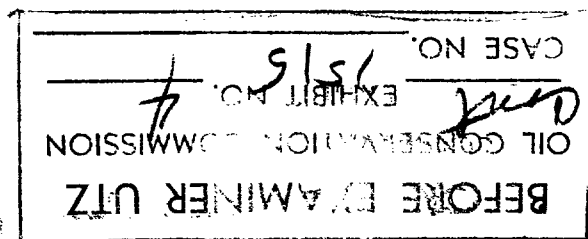
This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

## NOMENCLATURE

- $Q$  = Actual rate of flow at end of flow period at W. H. working pressure ( $P_w$ ).  
MCF/da. @ 15.025 psia and 60° F.
- $P_c$  = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.  
psia
- $P_w$  = Static wellhead working pressure as determined at the end of flow period.  
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- $P_t$  = Flowing wellhead pressure (tubing if flowing through tubing, casing if  
flowing through casing.) psia
- $P_f$  = Meter pressure, psia.
- $h_w$  = Differential meter pressure, inches water.
- $F_g$  = Gravity correction factor.
- $F_t$  = Flowing temperature correction factor.
- $F_{pv}$  = Supercompressability factor.
- $n$  = Slope of back pressure curve.

Note: If  $P_w$  cannot be taken because of manner of completion or condition of well, then  $P_w$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_t$ .



NEW MEXICO OIL CONSERVATION COMMISSION  
One-point Back Pressure Test for Gas Wells  
(Deliverability)

Form C-122-C  
4-1-54

Pool Jalmat Formation Yates-Seven Rivers County Lea  
Initial Annual Special X Date of test 8-15/8-22-58  
Company Continental Oil Company Lease Meyer B-22 Well No. 1  
Unit I Sec. 22 Twp. 22 Rge. 36 Purchaser El Paso Nat. Gas Company  
Casing 5 1/2 Wt. 14 I.D. 5.012 Set at 3088 Perf. O.H. 3088 To 3450  
Tubing 1" Wt. 5000# I.D. Kobe Set at 3040 Perf.  To   
Gas Pay: From 3088 To 3450 L 3088 x G .670 = GL 2069 Bar. Press. 13.2  
Producing Thru: Casing X Tubing  Type Well Single  
Single- Bradenhead-G.G. or G.O. Dual

FLOW DATA

| Started |         | Taken |         | Duration<br>Hours | Type<br>Taps | Line<br>Size | Orifice<br>Size | Static<br>Press. | Differ-<br>ential | Flow<br>Temp. |
|---------|---------|-------|---------|-------------------|--------------|--------------|-----------------|------------------|-------------------|---------------|
| Date    | time    | Date  | time    |                   |              |              |                 |                  |                   |               |
| 8-15    | 10:15AM | 8-18  | 10:15AM | 24                | Flg          | 4"           | 1.500           | 556              | 86.49             | 73            |
|         | PM      |       | PM      |                   |              |              |                 |                  |                   |               |

FLOW CALCULATIONS

| Static<br>Pressure<br>P <sub>f</sub> | Differ-<br>ential<br>h <sub>w</sub> | Meter<br>Extension<br>$\sqrt{P_f h_w}$ | 24-Hour<br>Coeff-<br>icient | Gravity<br>Factor<br>F <sub>g</sub> | Temp.<br>Factor<br>F <sub>t</sub> | Compress-<br>ability<br>F <sub>pv</sub> | Rate of Flow<br>MCF/Da. @ 15.025 psia<br>Q |
|--------------------------------------|-------------------------------------|----------------------------------------|-----------------------------|-------------------------------------|-----------------------------------|-----------------------------------------|--------------------------------------------|
| 569.2                                | 86.49                               | 221.88                                 | 13.99                       | .9463                               | .9877                             | 1.060                                   | 3,075                                      |

SHUT-IN DATA

| Shut-in |         | Press. Taken |         | Duration<br>Hours | Wellhead Pressure<br>(P <sub>c</sub> ) psia |        | W.H. Working Pressure<br>(P <sub>w</sub> ) and (P <sub>t</sub> ) psia |        |
|---------|---------|--------------|---------|-------------------|---------------------------------------------|--------|-----------------------------------------------------------------------|--------|
| Date    | Time    | Date         | Time    |                   | Tubing                                      | Casing | Tubing                                                                | Casing |
| 8-19    | 10:15AM | 8-22         | 10:15AM | 72                |                                             | 732.2  |                                                                       | 589.2  |
|         | PM      |              | PM      |                   |                                             |        |                                                                       |        |

FRICTION CALCULATIONS(if necessary)

$$P_w^2 = (589.2)^2 / (1.152 \times 3075)^2 (.133) = 348.8$$

$$P_w = 590.6$$

DELIVERABILITY CALCULATIONS

$$P_w \quad 590.6 \quad P_c \quad 732.2 \quad P_w + P_c \quad .8066$$

$$1 - \frac{P_w}{P_c} \quad .1934 \quad 1 + \frac{P_w}{P_c} \quad 1.8066 \quad \left(1 - \frac{P_w}{P_c}\right) \left(1 + \frac{P_w}{P_c}\right) = M \quad .3494$$

$$.36 + M \quad 1.0303 \quad \text{Log} \quad 0.0129637 \quad x(n) \quad .771$$

SUMMARY

$$P_c = 732.2 \text{ psia}$$

$$Q = 3,075 \text{ MCF/Da.}$$

$$P_w = 590.6 \text{ psia}$$

$$P_d = 585.8 \text{ psia}$$

$$D = 3,147 \text{ MCF/Da.}$$

$$= 0.0099950 +$$

COMPANY Continental Oil Company  
ADDRESS Box 68, Eunice, New Mexico

AGENT and TITLE

WITNESSED

COMPANY

$$\text{Log } Q = 3.4878451$$

$$\text{Log } D = 3.4978401$$

$$\text{Antilog} = 3,147 = D$$

REMARKS

Case No.

15/55

Large Exhibits



# LANE RADIOACTIVITY LOG WELLS COMPANY

TURNACLIFF

Location of Well  
9 PAINTS  
4-27-49  
MIDLAND VIA  
W.T.E.L.S.

COMPANY: CONTINENTAL OIL CO.  
WELL: MAY C. MEYERS B-22 NO. 1  
FIELD: ARROWHEAD  
COUNTY: LEA STATE: N.M.  
LOCATION: SEC. 22-22S-36E

COMPANY: CONTINENTAL OIL CO.  
WELL: MAY C. MEYERS B-22 #1  
FIELD: ARROWHEAD  
COUNTY: LEA  
STATE: N.M.

3512' D.F.

LOG MEASURED FROM ROTARY TABLE ELEVATION 3513.5'  
DRILLING MEASURED FROM R. TABLE ELEVATION 3513.0'  
PERMANENT DATUM 5 1/2" BRADEN HEAD ELEVATION 3503.5'

| RUN NUMBER                | 1            | 1         |
|---------------------------|--------------|-----------|
| TYPE OF LOG               | GAMMA RAY    | NEUTRON   |
| DATE                      | 4-27-49      | 4-27-49   |
| COMPANY DEPTH             | 3450'        | 3450'     |
| MAXIMUM DEPTH REACHED     | 3482'        | 3482'     |
| WELL FLUID                | 11.2# MUD    | 11.2# MUD |
| FLUID LEVEL               | FULL         | FULL      |
| MAXIMUM TEMPERATURE       |              |           |
| O.D. OF INSTRUMENT—INCHES | 3 5/8        | 3 5/8     |
| SENSITIVITY REFERENCE     | 274          | 275       |
| RECORDED BY               | SCHUTTERBACK |           |
| WITNESSED BY              | RANDOLPH     | RANDOLPH  |

CASING RECORD  
RUN NO. 1 SIZE—IN. 5 1/2 WT.—LB. SURFACE TO 3088'  
TO  
TO  
TO  
TO

OPEN HOLE RECORD  
BIT SIZE—IN. 4 3/4 INTERVAL 3088' TO T.D.  
TO  
TO  
TO  
TO

BEFORE EXAMINER'S OR OTHER DATA  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 3  
CASE NO. 1515

GAMMA RAY

RADIATION INTENSITY INCREASES

NEUTRON

RADIATION INTENSITY INCREASES

CASING &  
COLLAR LOG  
DEPTH

2800

2900

5.25"

2.73"