

## NEW MEXICO OIL CONSERVATION COMMISSION

Nov 8 7 37 AM '65

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Sawyer Formation San Andres County Lea  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test Oct. 18, 1965  
Company Western Drilling Company Lease Great Western Fed. "B" Well No. 1  
Unit I Sec. 30 Twp. 9S Rge. 38E Purchaser Capitan, Inc.  
Casing 4 1/2 Wt. 11.60# I.D. 4.0" Set at 5026' Perf. 4,925' To 4,995'  
Tubing 2-3/8" Wt. 4.70# I.D. 1.995" Set at 4,903 Perf. Open To \_\_\_\_\_  
Gas Pay: From 4925 To 4995 L \_\_\_\_\_ xG \_\_\_\_\_ -GL \_\_\_\_\_ Bar.Press. 13.2 psia  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: June 14, 1965 Packer None Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Flange

| No. | Flow Data                  |                              |                |                |              | Tubing Data    |              | Casing Data    |              | Duration of Flow Hr. |
|-----|----------------------------|------------------------------|----------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------------|
|     | (Prover)<br>(Line)<br>Size | (Choke)<br>(Orifice)<br>Size | Press.<br>psig | Diff.<br>$h_w$ | Temp.<br>°F. | Press.<br>psig | Temp.<br>°F. | Press.<br>psig | Temp.<br>°F. |                      |
| SI  |                            |                              |                |                |              | 1081           |              | 1082           | 60°          | 72 Hrs.              |
| 1.  | 2"                         | 0.0625                       | 1074           |                |              | 1072           |              | 1074           | 65°          | 1 Hr. 45 Min.        |
| 2.  | 2"                         | 0.125                        | 1030           |                |              | 1028           |              | 1030           | 67°          | 3 Hrs. 0 Min.        |
| 3.  | 3.071"                     | 1.000                        | 340            | 28.62          | 67°F.        | 954            |              | 966            | 67°          | 3 Hrs.               |
| 4.  | 3.071"                     | 1.000                        | 340            | 53.29          | 52°F.        | 788            |              | 872            | 52°          | 3 Hrs.               |
| 5.  | 3.071"                     | 1.000                        | 335            | 39.06          | 71°F.        | 754            |              | 873            | 71°          | 22 Hrs.              |

## FLOW CALCULATIONS

| No. | Coefficient<br>(24-Hour) | $\sqrt{h_{wpf}}$ | Pressure<br>psia | Flow Temp.<br>Factor<br>$F_t$ | Gravity<br>Factor<br>$F_g$ | Compress.<br>Factor<br>$F_{pv}$ | Rate of Flow<br>Q-MCFPD<br>@ 15.025 psia |
|-----|--------------------------|------------------|------------------|-------------------------------|----------------------------|---------------------------------|------------------------------------------|
| 1.  | 0.0827                   |                  | 1087.2           | 0.9952                        | 0.8968                     | 1.087                           | 87                                       |
| 2.  | 0.3418                   |                  | 1043.2           | 0.9933                        | 0.8968                     | 1.084                           | 344                                      |
| 3.  | 6.182                    | 100.54           | 353.2            | 0.9933                        | 0.8968                     | 1.031                           | 571                                      |
| 4.  | 6.182                    | 137.19           | 353.2            | 1.0078                        | 0.8968                     | 1.034                           | 793                                      |
| 5.  | 6.182                    | 116.62           | 348.2            | 0.9896                        | 0.8968                     | 1.030                           | 659                                      |

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
 $P_{pw}$  Measured \_\_\_\_\_ ( $1-e^{-S}$ )

Specific Gravity Separator Gas 0.746  
Specific Gravity Flowing Fluid \_\_\_\_\_  
 $P_c$  1095.2  $P_c^2$  1199.5

| No. | $P_w$<br>$P_t$ (psia) | $P_c^2$ | $F_c Q$ | $(F_c Q)^2$ | $(F_c Q)^2$<br>( $1-e^{-S}$ ) | $P_w^2$ | $P_c^2 - P_w^2$ | Cal.<br>$P_w$ | $P_w$<br>$P_c$ |
|-----|-----------------------|---------|---------|-------------|-------------------------------|---------|-----------------|---------------|----------------|
| 1.  | 1087.2                |         |         |             |                               | 1182.0  | 17.5            |               | 90.6           |
| 2.  | 1043.2                |         |         |             |                               | 1088.3  | 111.2           |               | 87.0           |
| 3.  | 979.2                 |         |         |             |                               | 958.8   | 240.7           |               | 81.6           |
| 4.  | 885.2                 |         |         |             |                               | 783.6   | 415.9           |               | 73.8           |
| 5.  | 886.2                 |         |         |             |                               | 785.4   | 414.1           |               | 73.9           |

Absolute Potential: 1,291.0 MCFPD;  $n$  0.63230COMPANY Denton Oil CompanyADDRESS P. O. Box 4359, Lubbock, TexasAGENT and TITLE C. J. Jordan, Jr. - Gas Engineer

WITNESSED \_\_\_\_\_

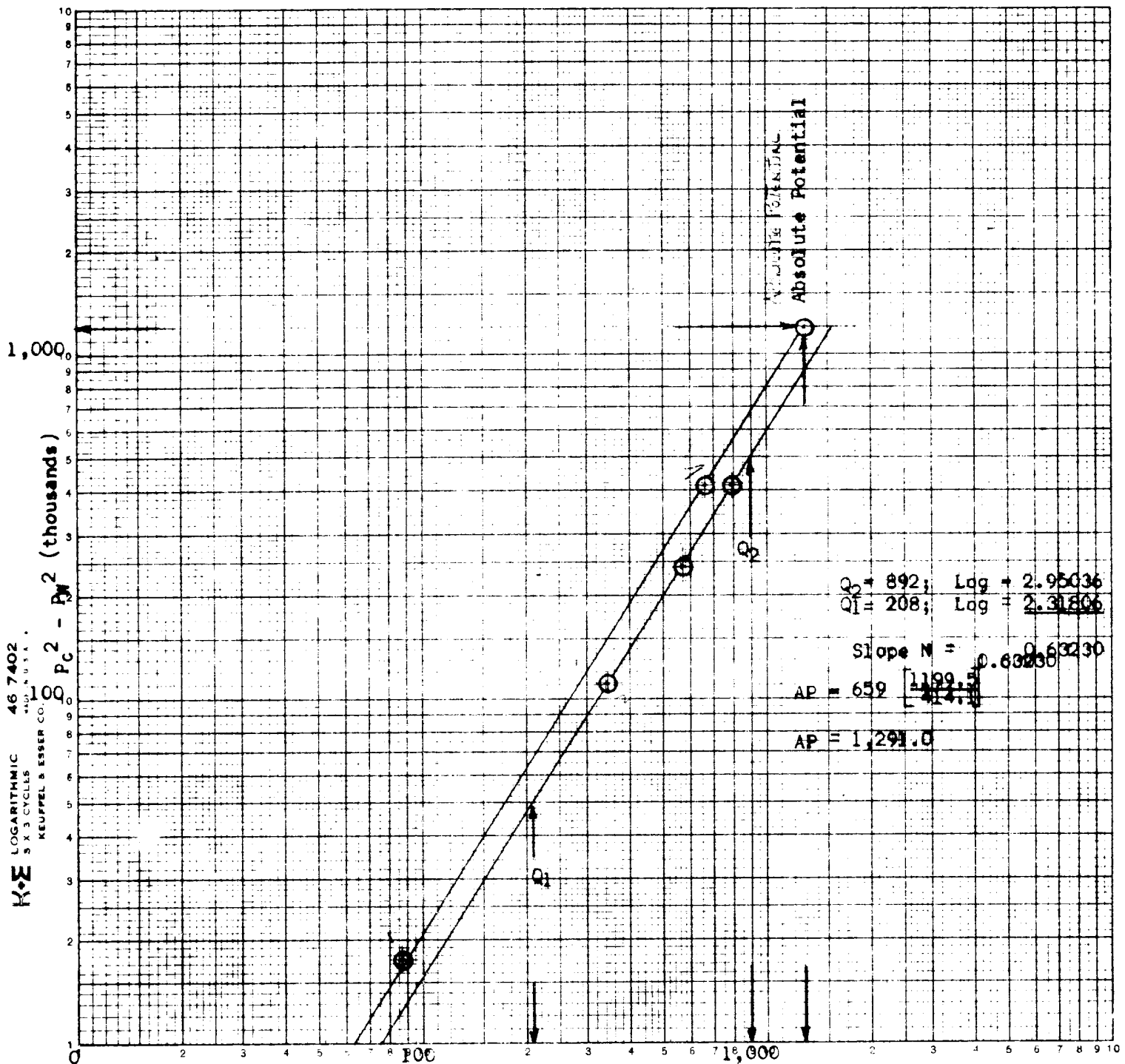
COMPANY \_\_\_\_\_

## REMARKS

 $CO_2$  and N. Composition considered as being 10% each.

Note: Critical flow prover used on points 1 & 2 due to hydrate formation in choke while producing into pipeline.

COMPANY: Western Drilling Company  
 WELL: Federal "B" No. 1  
 LOCATION: 1980 FSL 660 FEL SE/4 30-T9S-R-38E  
 FIELD: Sawyer  
 COUNTY: Lea  
 DATE: October 18, 1965



C-MCFD-15.025 psia

DENTON OIL COMPANY  
P. O. Box 4359  
LUBBOCK, TEXAS

Nov 8 7 37 AM '65

NOV 3 PM 1965

GAS-OIL RATIO REPORT

COMPANY: Western Drilling Company  
WELL: Great Western Federal "B" No. 1  
LOCATION: Unit I, Section 30, Twp. 9S, Rge. 38E, Sawyer Field  
COUNTY: Lea  
STATE: New Mexico  
TEST PERIOD: 2:00 P.M. Oct. 18, 1965 to 4:00 P.M. Oct. 19, 1965

|                                                      |                                   |
|------------------------------------------------------|-----------------------------------|
| Total volume of gas produced during test period:     | <u>657 MCF</u>                    |
| Total volume of liquid produced during test period:  | <u>4.34 BBLs.</u>                 |
| BS&W content of liquid produced:                     | <u>0.87 BBLs.</u>                 |
| Net volume of crude oil produced during test period: | <u>3.47 BBLs.</u>                 |
| Gas-Oil Ratio: 657,000/3.47                          | <u>189,337 Ft<sup>3</sup>/BBL</u> |