

1957 DEC 15 AM 10:15 POINT OF PRESSURE 1000 LBS PER SQ IN 2 43

Revised 12-1-55

Pool Jalmat Set Color Yates and 7 Rivers Lease Lea

Initial Annual Special X Date of Test 3-18/3-22-57

Company Shell Oil Company Lease Christmas A Well No. 1

Unit M Sec. 23 Twp. 22S Rge. 36E Purchaser El Paso Natural Gas Co.

Casing 5 1/2 Wt. 17 I.D. Set at 3111 Perfor.

Tubing 2 3/8 Wt. 4.7 I.D. Set at 3595

Gas Pay: From 3111 To 3600 L. 3595 G. .650 2337 13.2

Producing Thru: Casing Tubing X Single

Date of Completion: 1-1-50 Baker None

Tested Through (Prover) (Choke) (Water)

| No. | Flow Data            |                        |             |                      |           | Tubing Data |           | Duration of Flow Hr. |
|-----|----------------------|------------------------|-------------|----------------------|-----------|-------------|-----------|----------------------|
|     | (Prover) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. h <sub>w</sub> | Temp. °F. | Press. psig | Temp. °F. |                      |
| SI  |                      |                        |             |                      |           | 817         |           | 48*                  |
| 1.  | 4                    | 1.500                  | 747         | 15.2                 | 77        | 749         |           | 24                   |
| 2.  | 4                    | 1.500                  | 716         | 24.0                 | 75        | 719         |           | 24                   |
| 3.  | 4                    | 1.500                  | 691         | 31.4                 | 71        | 693         |           | 24                   |
| 4.  | 4                    | 1.500                  | 638         | 51.1                 | 70        | 640         |           | 24                   |
| 5.  |                      |                        |             |                      |           |             |           |                      |

\*Well logged off in 72 hr.

| No. | Coefficient      |                  | Pressure psia | Flow Temp. Factor F <sub>t</sub> |       | Compress. Factor F <sub>g</sub> | Rate of Flow Q-MCFPD @ 15.025 psia |
|-----|------------------|------------------|---------------|----------------------------------|-------|---------------------------------|------------------------------------|
|     | Flange (24-Hour) | $\sqrt{h_{wpf}}$ |               |                                  |       |                                 |                                    |
| 1.  | 13.99            | 107.52           |               | .9840                            | .9608 | 1.073                           | 1,526                              |
| 2.  | 13.99            | 132.30           |               | .9859                            | .9608 | 1.070                           | 1,886                              |
| 3.  | 13.99            | 148.58           |               | .9896                            | .9608 | 1.072                           | 2,119                              |
| 4.  | 13.99            | 182.43           |               | .9905                            | .9608 | 1.064                           | 2,584                              |
| 5.  |                  |                  |               |                                  |       |                                 |                                    |

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bol.

Gravity of Liquid Hydrocarbons deg.

F<sub>c</sub> 9.936 (1-e<sup>-S</sup>) 0.149

Separator Gas 330.2

Flowing Fluid 689.2

| No. | P <sub>t</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> ) | Cal.  | P <sub>w</sub> P <sub>c</sub> |
|-----|-----------------------|-----------------------------|------------------|---------------------------------|------------------------------------------------------|-------|-------------------------------|
| 1.  | 762.2                 | 580.9                       | 15.16            | 229.8                           | 34.2                                                 | 615.1 | 94.6                          |
| 2.  | 732.2                 | 536.1                       | 18.74            | 351.2                           | 52.3                                                 | 588.4 | 92.4                          |
| 3.  | 706.2                 | 498.7                       | 21.05            | 443.1                           | 66.0                                                 | 564.7 | 90.8                          |
| 4.  | 653.2                 | 426.7                       | 25.67            | 658.9                           | 98.2                                                 | 524.9 | 87.5                          |
| 5.  |                       |                             |                  |                                 |                                                      |       |                               |

Absolute Potential: 7.600 MCFPD; n .727

COMPANY Shell Oil Company

ADDRESS Box 845, Roswell, New Mexico

AGENT and TITLE R. C. Cabaniss, District Engineer

WITNESSED H. H. Kerby

COMPANY El Paso Natural Gas Company

## 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  $P_t$ .