NEW XICO OIL CONSERVATION COMMSSI

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

HOBBS OFFICE O. C. C.

Form C-122
Revised 9-1-65

APR 27 10 42 AM '66

| | | | | | |
|---|---|---|---|---|---|
| Type Test: ☐ Initial ☐ Annual ☒ Special | | | | Test Date: 3-28-66 | |
| Company: The British-American Oil Producing Company | | Connection: Phillips Petroleum Co. Warren Petroleum Co. | | | |
| Pool: Osudo (Morrow) | | Formation: Morrow | | Unit: North Wilson Deep | |
| Completion Date: 2-7-66 | Total Depth: 11,888 | Plug Back T.D.: 11,530 | Elevation: 3647 GL | Farm or Lease Name: North Wilson Deep Unit | |
| Csg. Size: 4-1/2" / Wt.: 11.6 / d: 4.000 / Set At: 11,628 | | Perforations: From 11,320 To 11,478 | | Well No.: 2 | |
| Tbg. Size: 2-3/8" / Wt.: 4.6 / d: 1.995 / Set At: 11,226 | | Perforations: From - - - To - - - | | Unit: F / Sec.: 5 / Twp.: 21-S / Rge.: 35-E | |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single | | Packer Set At: 11,264 | | County: Lea | |
| Producing Thru: Tubing | Reservoir Temp. °F: 168 @ 11,359 | Mean Annual Temp. °F: | Baro. Press. – $P_a$: 13.2 | State: New Mexico | |
| L: 11,253 | H: 11,253 | Gg: .605 | % $CO_2$: .24 | % $N_2$: .39 | % $H_2S$: .5/100 df |
| Prover: | Meter Run: x | Taps: Flange | | | |

## FLOW DATA / TUBING DATA / CASING DATA

| NO. | Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | Tubing Press. p.s.i.g. | Tubing Temp. °F | Casing Press. p.s.i.g. | Casing Temp. °F | Duration of Flow |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | | | 5070 | | Pkr. | | |
| 1. | 4" | | 2.25 | 600.6 | 6.8 | 68 | 4960 | 66 | " | | 65 |
| 2. | 4" | | 2.25 | 644.0 | 27.0 | 64 | 4520 | 64 | " | | 80 |
| 3. | 4" | | 2.25 | 688.9 | 54.8 | 64 | 3990 | 62 | " | | 70 |
| 4. | 4" | | 2.25 | 722.5 | 86.5 | 60 | 3412 | 78 | " | | 60 |
| 5. | | | | | | | | | | | |

## RATE OF FLOW CALCULATIONS

| NO. | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure $P_m$ | Flow Temp. Factor Ft. | Gravity Factor Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
|---|---|---|---|---|---|---|---|
| | L-10 Chart w/$G_g$ = 1.0 | L-10 Chart | From L-10 | | | | |
| 1 | 81,074 | 20.150 | 600.6 | 0.9924 | 1.286 | 1.052 | 2193 |
| 2 | 81,074 | 41.730 | 644.0 | 0.9962 | 1.286 | 1.056 | 4577 |
| 3 | 81,074 | 61.420 | 688.9 | 0.9962 | 1.286 | 1.061 | 6768 |
| 4 | 81,074 | 79.050 | 722.5 | 1.0000 | 1.286 | 1.066 | 8786 |
| 5 | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1 | .90 | 528 | 1.47 | .904 |
| 2 | .96 | 524 | 1.46 | .896 |
| 3 | 1.03 | 524 | 1.46 | .889 |
| 4 | 1.08 | 520 | 1.45 | .881 |
| 5 | | | | |

Gas Liquid Hydrocarbon Ratio: 13.76 Bbl/MMCF or 72.7 Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons: 46.1 Deg.

Specific Gravity Separator Gas: .605 XXXXXXXXX

Specific Gravity Flowing Fluid: XXXXX .796

Critical Pressure: 671 P.S.I.A. 666 P.S.I.A.

Critical Temperature: 358 R 421 R

$P_c$ 5070 $P_c^2$ 25,705 x $10^3$

| NO | $P_t^2$ | $P_w$ | $P_w^2$ x $10^3$ | $P_c^2 - P_w^2$ x $10^3$ |
|---|---|---|---|---|
| 1 | 24,602 | 4971 | 24,711 | 9.94 |
| 2 | 20,430 | 4662 | 21,734 | 3.971 |
| 3 | 15,920 | 4278 | 18,301 | 7.404 |
| 4 | 11,642 | 3907 | 15,265 | 10.440 |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.462$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.85$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 16,254$

Absolute Open Flow: 16,254 Mcfd @ 15.025 Angle of Slope θ: 43° Slope, n: .682

Remarks:

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | | William E. Trotter | |