NEW MEXICO OIL CONSERVATION COMMISSION

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED

| | | | | |
|---|---|---|---|---|
| Type Test: ☒ Initial ☐ Annual ☐ Special | | | Test Date: 3-6-73 | |
| Company: BRUNSON-MCKNIGHT | Connection: TO AIR | | | |
| Pool: SOUTH CARLSBAD | Formation: MORROW | | | Unit |
| Completion Date: 2-20-73 | Total Depth: 11826 | Plug Back TD: 11768 | Elevation: 3168 GR. | Farm or Lease Name: HOWARD HEMLER |
| Csg. Size: 5 1/2" / Wt.: 17# / d: 4.892 / Set At: 11,826 | | Perforations: From 11,393 To 11,737 | | Well No.: 1 |
| Tbg. Size: 2 7/8" / Wt.: 8.7 / d: 2.259 / Set At: 11,246 | | Perforations: From OPEN To ENTER | | Unit: L / Sec.: 29 / Twp.: 22S / Rge.: 27E |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE | | Packer Set At: 11,246 | | County: EDDY |
| Producing Thru: TUBING | Reservoir Temp. °F: @ 11750 | Mean Annual Temp. °F: 60° | Baro. Press. – $P_a$: 13.2 | State: NEW MEXICO |

| L | H | Gg | % $CO_2$ | % $N_2$ | % $H_2S$ | Prover | Meter Run | Taps |
|---|---|---|---|---|---|---|---|---|
| 11246 | 11246 | .580 | 1.00 | 0.61 | .12 | | 3" | FLANGE |

| | FLOW DATA | | | | TUBING DATA | | CASING DATA | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Prover Line Size X Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | Press. p.s.i.g. | Temp. °F | Press. p.s.i.g. | Temp. °F | Duration of Flow |
| SI | | | | | 2599.0 | | PACKER | CHOKE | 96 HRS. |
| 1. | 3" x 1.750 | 170.0 | 10.5 | 93 | 2054.0 | 57 | | 9/64" | 1 HR. |
| 2. | 3" x 1.750 | 160.0 | 26.0 | 72 | 1747.0 | 56 | | 13/64" | 1 HR. |
| 3. | 3" x 1.750 | 190.0 | 39.5 | 82 | 1593.0 | 59 | | 17/64" | 1HR. |
| 4. | 3" x 1.750 | 205.0 | 72.0 | 76 | 1154.0 | 58 | | 24/64" | 1 HR. |
| 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 |
|---|---|---|---|---|---|---|---|
| 1 | 15.61 | 43.86 | 183.2 | .9697 | 1.313 | 1.012 | 882 |
| 2 | 15.61 | 67.11 | 173.2 | .9887 | 1.313 | 1.013 | 1378 |
| 3 | 15.61 | 89.59 | 203.2 | .9795 | 1.313 | 1.014 | 1824 |
| 4 | 15.61 | 125.34 | 218.2 | .9850 | 1.313 | 1.015 | 2568 |
| 5 | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1 | .27 | 553 | 1.58 | .997 |
| 2 | .26 | 532 | 1.52 | .974 |
| 3 | .30 | 542 | 1.55 | .973 |
| 4 | .32 | 536 | 1.54 | .970 |
| 5 | | | | |

Gas Liquid Hydrocarbon Ratio: TSTM Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: _____ Deg.
Specific Gravity Separator Gas: 0.580 XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 676 P.S.I.A. _____ P.S.I.A.
Critical Temperature: 349 R _____ R

$P_c$ 3504.2 $P_c^2$ 12279

| NO | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | | 2903.2 | 8429 | 3850 |
| 2 | | 2594.2 | 6730 | 5549 |
| 3 | | 2403.2 | 5775 | 6504 |
| 4 | | 1822.2 | 3320 | 8959 |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.3707$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.3707$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3520$

Absolute Open Flow: 3520 Mcfd @ 15.025 Angle of Slope @: 45° Slope, n: 1.000

Remarks: BOTTOM HOLE PRESSURE MEASURED WITH AMERADA BOMB @ 11,740'

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | M.C.T. | R.L.W. | |