NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

| | | | | | |
|---|---|---|---|---|---|
| Type Test: ☒ Initial ☐ Annual ☐ Special | | | | Test Date: 11-25-74 | DEC 9 1974 |
| Company: CITIES SERVICE OIL CO. | | Connection: TO AIR | | | |
| Pool: | | Formation: MORROW | | | Unit: A |
| Completion Date: 10-14-74 | Total Depth: 11,742 FEET | Plug Back TD: 11,687 FEET | | Elevation: 3194 FEET | Farm or Lease Name: ELIZANDO FED. "A" |
| Csg. Size: 5½" / Wt.: 17# & 20# / d: / Set At: 11,742' | | Perforations: From 11,446' To 11,684' | | | Well No.: 2-Y |
| Tbg. Size: 2 7/8" / Wt.: 6.5# / d: / Set At: 11,325' | | Perforations: From OPEN To ENDED | | | Unit: / Sec.: 21 / Twp.: 21S / Rge.: ~~37E~~ 27 |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE | | Packer Set At: 11,308 FEET | | | County: EDDY |
| Producing Thru: TUBING | Reservoir Temp. °F: 206° @ 11,547' | 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 |
|---|---|---|---|---|---|---|---|---|
| 11,565' | 11,565' | 0.6070 | 1.219 | 0.342 | ---0--- | ------- | 4 INCH | 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 | | | | | 3693.0 | | PACKER | CHOKE | |
| 1. | 4" X 1.750" | 560.0 | 7.5 | 70 | 3425.0 | 66 | | 8/64" | 45 MIN. |
| 2. | 4" X 1.750" | 570.0 | 13.0 | 62 | 3316.0 | 68 | | 11/64" | 45 MIN. |
| 3. | 4" X 1.750" | 580.0 | 35.0 | 62 | 2936.0 | 69 | | 14/64" | 45 MIN. |
| 4. | 4" X 1.750" | 575.0 | 59.0 | 68 | 2644.0 | 70 | | 16/64" | 45 MIN. |
| 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 | 14.93 | 65.57 | 573.2 | 0.9905 | 1.284 | 1.047 | 1304 |
| 2. | 14.93 | 87.07 | 583.2 | 0.9981 | 1.284 | 1.051 | 1751 |
| 3. | 14.93 | 144.09 | 593.2 | 0.9981 | 1.284 | 1.052 | 2900 |
| 4. | 14.93 | 186.29 | 588.2 | 0.9924 | 1.284 | 1.048 | 3714 |
| 5. | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1. | 0.85 | 530 | 1.48 | .912 |
| 2. | 0.86 | 522 | 1.46 | .906 |
| 3. | 0.88 | 522 | 1.46 | .903 |
| 4. | 0.87 | 528 | 1.48 | .910 |
| 5. | | | | |

Gas Liquid Hydrocarbon Ratio: TSTM Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: ---- Deg.
Specific Gravity Separator Gas: 0.6070 XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 675 P.S.I.A. ____ P.S.I.A.
Critical Temperature: 357 R ____ R

$P_f$ 4801.2 $P_f^2$ 23051

| NO | $P_t^2$ | $P_s^2$ | $P_f^2 - P_s^2$ |
|---|---|---|---|
| 1 | 11821 | 4526.2 | 20486 | 2565 |
| 2 | 11084 | 4405.2 | 19406 | 3645 |
| 3 | 8698 | 4000.2 | 16002 | 7049 |
| 4 | 7061 | 3655.2 | 13360 | 9691 |
| 5 | | | | |

(1) $\frac{P_f^2}{P_f^2 - P_s^2} = 2.3786$ (2) $\left[\frac{P_f^2}{P_f^2 - P_s^2}\right]^n = 1.9692$

AOF = Q $\left[\frac{P_f^2}{P_f^2 - P_s^2}\right]^n = 7314$

Absolute Open Flow: 7314 Mcfd @ 15.025 | Angle of Slope θ: 52° | Slope, n: 0.782

Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA GAUGE @ 11,547 FEET
GOOD POINT ALIGNMENT – GOOD TEST

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | DON TYSON | R. WEST | J.W.W. |