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C-122

HORIZON OIL & GAS CO.
SPEARMAN, TEXAS

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

Form C-122
Revised 9-1-65

RECEIVED
SEP 26 1973
O. C. C.
ARTESIA, OFFICE

| | | | | | |
|---|---|---|---|---|---|
| Type Test: [X] Initial [ ] Annual [ ] Special | | | | Test Date: 8-16-73 | |
| Company: HORIZON OIL & GAS CO. | | | Connection: TO AIR | | Unit: |
| Pool: ~~GRAYBURG~~ Wildcat ATOKA | | | Formation: ATOKA | | |
| Completion Date: 8-16-73 | Total Depth: 10,890 FT. | | Plug Back TD: 10,870 FT. | Elevation: 3571 GR. | Farm or Lease Name: STATE 28 Com |
| Csg. Size: 5½" / Wt. / d / Set At: 10,870' | | | Perforations: From 10,327' To 10,341' | | Well No.: 2 |
| Tbg. Size: 2 3/8" / Wt. / d / Set At: 10,238' | | | Perforations: From To | | Unit: K / Sec.: 28 / Twp.: 17S / Rge.: 29E |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: GAS GAS MULTIPLE | | | Packer Set At: 10,238 FT. | | County: EDDY |
| Producing Thru: TUBING | Reservoir Temp. °F: 157° @ 10,251' | Mean Annual Temp. °F: 60° | Baro. Press. – $P_a$: 13.2 | | State: NEW MEXICO |

| L | d | Gg | % $CO_2$ | % $N_2$ | % $H_2S$ | Prover | Meter Run | Taps |
|---|---|---|---|---|---|---|---|---|
| 10,238' | 10,238' | 0.6392 | 0.35 | 0.42 | -0- | | 3 IN. | FLANGE |

| NO. | FLOW DATA: Prover Line Size X Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | TUBING DATA: Press. p.s.i.g. | Temp. °F | CASING DATA: Press. p.s.i.g. | Temp. °F | Duration of Flow |
|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | 3659.0 | | PACKER | CHOKE | |
| 1. | 3" X 2.250" | 450.0 | 1.0 | 108 | 3065.0 | 80 | | 6/64 | 60 MIN. |
| 2. | 3' X 2.250" | 475.0 | 3.5 | 108 | 2535.0 | 77 | | 10/64 | 30 " |
| 3. | 3" X 2.250" | 470.0 | 8.0 | 79 | 1837.0 | 78 | | 14/64 | 45 " |
| 4. | 3" X 2.250" | 475.0 | 11.0 | 79 | 1374.0 | 73 | | 22/64 | 45 " |
| 5. | | | | | | | | | |

RATE OF FLOW CALCULATIONS

| NO. | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Presaure $P_m$ | Flow Temp. Factor Ft. | Gravity Factor Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
|---|---|---|---|---|---|---|---|
| 1 | 28.78 | 21.52 | 463.2 | 0.9568 | 1.251 | 1.033 | 766 |
| 2. | 28.78 | 41.34 | 488.2 | 0.9568 | 1.251 | 1.035 | 1474 |
| 3. | 28.78 | 62.18 | 483.2 | 0.9822 | 1.251 | 1.042 | 2291 |
| 4. | 28.78 | 73.28 | 488.2 | 0.9822 | 1.251 | 1.043 | 2703 |
| 5. | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1 | 0.69 | 568 | 1.54 | 0.937 |
| 2. | 0.73 | 568 | 1.54 | 0.933 |
| 3. | 0.72 | 539 | 1.46 | 0.920 |
| 4. | 0.73 | 539 | 1.46 | 0.920 |
| 5 | | | | |

Gas Liquid Hydrocarbon Ratio: 47.729 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 56.5 Deg.
Specific Gravity Separator Gas: 0.6392 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 670 P.S.I.A. ____ P.S.I.A.
Critical Temperature: 368 R ____ R

$P_c$ 4728.2 $P_c^2$ 22356

| NO | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | | 4120.2 | 16976 | 5380 |
| 2 | | 3534.2 | 12491 | 9865 |
| 3 | | 2683.2 | 7200 | 15156 |
| 4 | | 2183.2 | 4766 | 17590 |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2709$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.2709$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3435$

posted

Absolute Open Flow: 3435 Mcfd @ 15.025 Angle of Slope θ: 45° Slope, n: 1.000

Remarks: BOTTOM HOLE PRESSURE MEASURED WITH AMERADA GAUGE @ 10,215 FEET

GOOD POINT ALIGNMENT BUT IN EXCESS OF 1.000

| Approved by Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | G. PARKER | R. WIEST | J.W.W. |