

## MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

**RECEIVED**  
JAN 19 1984  
OIL CON. DIV.  
DIST. 3

|                                                                                                                           |             |                            |                    |                                    |                    |
|---------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------|--------------------|------------------------------------|--------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                            |                    | Test Date<br>12-29-83              |                    |
| Company<br>Dugan Production Corp.                                                                                         |             |                            |                    | Connection                         |                    |
| Pool<br>Undesignated-Fruitland                                                                                            |             |                            |                    | Formation<br>Fruitland             |                    |
| Completion Date<br>12-15-83                                                                                               |             | Total Depth<br>2020'       |                    | Plug Back TD<br>1976'              |                    |
| Elevation<br>5712' GL                                                                                                     |             | Farm or Lease Name<br>Hana |                    |                                    |                    |
| Csq. Size<br>2-7/8"                                                                                                       | Wt.<br>6.4# | d<br>2.441                 | Set At<br>2017' GL | Perforations:<br>From 1561 To 1627 |                    |
| Tbg. Size<br>1 1/4"                                                                                                       | Wt.<br>2.4# | d<br>1.380                 | Set At<br>1848'    | Perforations:<br>From To           |                    |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>G.G. Dual                                                      |             |                            |                    | Packer Set At<br>1848'             |                    |
| Producing Thru casing                                                                                                     |             | Reservoir Temp. °F         |                    | Mean Annual Temp. °F               |                    |
| Baro. Press. - P <sub>a</sub>                                                                                             |             | State<br>New Mexico        |                    |                                    |                    |
| L                                                                                                                         | H           | G <sub>g</sub><br>.62 est. | % CO <sub>2</sub>  | % N <sub>2</sub>                   | % H <sub>2</sub> S |
| Prover                                                                                                                    |             | Meter Run                  |                    | Taps                               |                    |

  

| FLOW DATA |                  |   |              |                 |                      | TUBING DATA |                 | CASING DATA |                 | Duration of Flow |          |
|-----------|------------------|---|--------------|-----------------|----------------------|-------------|-----------------|-------------|-----------------|------------------|----------|
| NO.       | Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. h <sub>w</sub> | Temp. °F    | Press. p.s.i.g. | Temp. °F    | Press. p.s.i.g. |                  | Temp. °F |
| SI        |                  |   |              |                 |                      |             | 164             |             | 600             |                  | 14 days  |
| 1.        |                  |   |              |                 |                      |             |                 |             |                 |                  |          |
| 2.        |                  |   |              |                 |                      |             |                 |             |                 |                  |          |
| 3.        | 7/16" Pos. Choke |   | 2            |                 |                      | 48°         | 164             |             |                 |                  | 3 hours  |
| 4.        |                  |   |              |                 |                      |             |                 |             |                 |                  |          |
| 5.        |                  |   |              |                 |                      |             |                 |             |                 |                  |          |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                      |                   |                             |                      |
|---------------------------|-----------------------|------------------|-------------------------|----------------------|-------------------|-----------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft | Gravity Factor Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
| 1                         |                       |                  |                         |                      |                   |                             |                      |
| 2                         |                       |                  |                         |                      |                   |                             |                      |
| 3                         | 4.1712                |                  | 14                      | 1.012                | .9837             | 1.000                       | 58                   |
| 4                         |                       |                  |                         |                      |                   |                             |                      |
| 5                         |                       |                  |                         |                      |                   |                             |                      |

  

| NO. | P <sub>t</sub> | Temp. °R | T <sub>r</sub> | Z | Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.          |
|-----|----------------|----------|----------------|---|------------------------------------------------------|
| 1   |                |          |                |   | A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.     |
| 2   |                |          |                |   | Specific Gravity Separator Gas _____ X X X X X X X X |
| 3   |                |          |                |   | Specific Gravity Flowing Fluid _____ X X X X X       |
| 4   |                |          |                |   | Critical Pressure _____ P.S.I.A. _____ P.S.I.A.      |
| 5   |                |          |                |   | Critical Temperature _____ R _____ R                 |

  

| NO. | P <sub>t</sub> <sup>2</sup> | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |
|-----|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|
| 1   |                             |                |                             |                                                           |
| 2   |                             |                |                             |                                                           |
| 3   | 196                         |                | 196                         | 374,348                                                   |
| 4   |                             |                |                             |                                                           |
| 5   |                             |                |                             |                                                           |

  

(1)  $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0005$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 58$

(2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^{n^{.85}} = 1.0004$

  

|                                        |                               |              |
|----------------------------------------|-------------------------------|--------------|
| Absolute Open Flow _____ Mcfd @ 15.025 | Angle of Slope $\theta$ _____ | Slope, n .85 |
|----------------------------------------|-------------------------------|--------------|

  

Remarks: Pt = Pw - Friction Negligible

  

|                      |                        |                          |             |
|----------------------|------------------------|--------------------------|-------------|
| Approved By Division | Conducted By:<br>Brown | Calculated By:<br>Jacobs | Checked By: |
|----------------------|------------------------|--------------------------|-------------|