

EL PASO NATURAL GAS COMPANY  
OPEN FLOW TEST DATADATE **September 12, 1961**

|                                                  |                             |                                      |                             |
|--------------------------------------------------|-----------------------------|--------------------------------------|-----------------------------|
| Operator<br><b>El Paso Natural Gas Company</b>   |                             | Lease<br><b>Sunray No. 3</b>         |                             |
| Location<br><b>1750'N, 1150'W, Sec. 5-29N-8W</b> |                             | County<br><b>San Juan</b>            | State<br><b>New Mexico</b>  |
| Formation<br><b>Pictured Cliffs</b>              |                             | Pool<br><b>Undesignated</b>          |                             |
| Casing: Diameter<br><b>2-7/8" O.D.</b>           | Set At: Feet<br><b>2991</b> | Tubing: Diameter<br><b>No Tubing</b> | Set At: Feet<br><b>----</b> |
| Pay Zone: From<br><b>2890</b>                    | To<br><b>2926</b>           | Total Depth:<br><b>2992 c/o 2935</b> | Shut In<br><b>9-5-61</b>    |
| Stimulation Method<br><b>Sand/Water Frac.</b>    |                             | Flow Through Casing<br><b>X</b>      | Flow Through Tubing         |

|                                               |                          |                                    |                                                    |                                |                   |
|-----------------------------------------------|--------------------------|------------------------------------|----------------------------------------------------|--------------------------------|-------------------|
| Choke Size, Inches<br><b>0.750"</b>           |                          | Choke Constant: C<br><b>12.365</b> |                                                    | <b>"TUBINGLESS COMPLETION"</b> |                   |
| Shut-In Pressure, Casing, PSIG<br><b>1007</b> | + 12 PSIA<br><b>1019</b> | Days Shut-In<br><b>7</b>           | Shut-In Pressure, Tubing, PSIG<br><b>No Tubing</b> | + 12 PSIA<br><b>----</b>       |                   |
| Flowing Pressure: P, PSIG<br><b>115</b>       | + 12 PSIA<br><b>127</b>  |                                    | Working Pressure: P <sub>w</sub><br><b>(Calc.)</b> | + 12 PSIA<br><b>159</b>        |                   |
| Temperature:<br>T <b>64</b> °F                | n<br>Fr = <b>.9962</b>   |                                    | Fpv (From Tables)<br><b>1.012</b>                  | Gravity<br><b>.670</b>         | Fg = <b>.9463</b> |

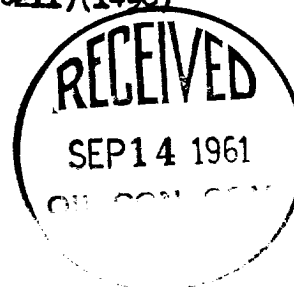
$$\text{CHOKE VOLUME} = Q = C \times P_r \times F_r \times F_g \times F_{pv}$$

$$Q = (12.365)(127)(.9962)(.9463)(1.012) = 1498 \text{ MCF/D}$$

$$\text{OPEN FLOW } Aof = Q \left( \frac{P_c^2}{P_c^2 - P_w^2} \right)^n$$

$$Aof = \left( \frac{1,038,361}{1,013,080} \right)^n = (1.0249)^{.88} (1498) = (1.0211)(1498)$$

$$Aof = 1530 \text{ MCF/D}$$

TESTED BY **Jesse B. Goodwin**

WITNESSED BY

Checked by: **R. L. Nickell, Jr.**

*Lewis D. Galloway*  
L. D. Galloway