

Initial  
Deliverability Test

# NEW MEXICO OIL CONSERVATION COMMISSION WELL DELIVERABILITY TEST REPORT FOR 19 68

Form C122-A  
Revised 1-1-68

|                           |                              |                            |                           |
|---------------------------|------------------------------|----------------------------|---------------------------|
| POOL NAME<br><b>Basin</b> | POOL SLOPE<br><b>n = .75</b> | FORMATION<br><b>Dakota</b> | COUNTY<br><b>San Juan</b> |
|---------------------------|------------------------------|----------------------------|---------------------------|

75835

|                                                              |                                      |                                               |                                                      |                                                           |                                          |
|--------------------------------------------------------------|--------------------------------------|-----------------------------------------------|------------------------------------------------------|-----------------------------------------------------------|------------------------------------------|
| COMPANY<br><b>El Paso Natural Gas Company</b>                |                                      |                                               | WELL NAME AND NUMBER<br><b>Huerfano Unit No. 177</b> |                                                           |                                          |
| UNIT LETTER<br><b>I</b>                                      | SECTION<br><b>22</b>                 | TOWNSHIP<br><b>26</b>                         | RANGE<br><b>10</b>                                   | PURCHASING PIPELINE<br><b>El Paso Natural Gas Company</b> |                                          |
| CASING O.D. - INCHES<br><b>4.500</b>                         | CASING I.D. - INCHES<br><b>4.052</b> | SET AT DEPTH - FEET<br><b>6851</b>            | TUBING O.D. - INCHES<br><b>2.375</b>                 | TUBING I.D. - INCHES<br><b>1.995</b>                      | TOP - TUBING PERF. - FEET<br><b>6592</b> |
| GAS PAY ZONE<br>FROM <b>6602</b> TO <b>6738</b>              |                                      | WELL PRODUCING THRU<br>CASING TUBING <b>X</b> |                                                      | GAS GRAVITY<br><b>0.711</b>                               | GRAVITY X LENGTH<br><b>4687</b>          |
| DATE OF FLOW TEST<br>FROM <b>10-01-68</b> TO <b>10-09-68</b> |                                      |                                               | DATE SHUT-IN PRESSURE MEASURED<br><b>7-17-68</b>     |                                                           |                                          |

## PRESSURE DATA - ALL PRESSURES IN PSIA

|                                                  |                                                      |                                                  |                                                  |                                                       |                                                            |                                                              |
|--------------------------------------------------|------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------|
| (a) Flowing Casing Pressure (DWt)<br><b>443</b>  | (b) Flowing Tubing Pressure (DWt)<br><b>443</b>      | (c) Flowing Meter Pressure (DWt)<br><b>1642</b>  | (d) Flow Chart Static Reading<br><b>1644</b>     | (e) Meter Error (Item c - Item d)<br><b>1644</b>      | (f) Friction Loss (a-c) or (b-c)<br><b>822</b>             | (g) Average Meter Pressure (Integr.)<br><b>443</b>           |
| (h) Corrected Meter Pressure (g+e)<br><b>443</b> | (i) Avg. Wellhead Press. $P_f = (h+f)$<br><b>443</b> | (j) Shut-in Casing Pressure (DWt)<br><b>1642</b> | (k) Shut-in Tubing Pressure (DWt)<br><b>1644</b> | (l) $P_c$ = higher value of (j) or (k)<br><b>1644</b> | (m) Del. Pressure $P_d = \frac{50}{822} P_c$<br><b>822</b> | (n) Separator or Dehydrator Pr. (DWt) for critical flow only |

## FLOW RATE CORRECTION (METER ERROR)

|                                          |                                                                   |                                                              |                                           |
|------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------|
| Integrated Volume - MCF/D<br><b>1080</b> | Quotient of $\frac{\text{Item c}}{\text{Item d}}$<br><b>1.000</b> | $\sqrt{\frac{\text{Item c}}{\text{Item d}}}$<br><b>1.000</b> | Corrected Volume<br><b>Q = 1080 MCF/D</b> |
|------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------|

## WORKING PRESSURE CALCULATION

|                              |                                        |                                                        |                           |                                         |                                    |
|------------------------------|----------------------------------------|--------------------------------------------------------|---------------------------|-----------------------------------------|------------------------------------|
| $(1-e^{-s})$<br><b>0.289</b> | $(F_c Q_m)^2 (1000)$<br><b>103,104</b> | $R^2 = (1-e^{-s}) (F_c Q_m)^2 (1000)$<br><b>29,797</b> | $P_i^2$<br><b>196,249</b> | $P_w^2 = P_i^2 + R^2$<br><b>226,046</b> | $P_w = \sqrt{P_w^2}$<br><b>475</b> |
|------------------------------|----------------------------------------|--------------------------------------------------------|---------------------------|-----------------------------------------|------------------------------------|

## DELIVERABILITY CALCULATION

|                                                                               |                                                              |                     |                         |
|-------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------|-------------------------|
| $D = Q \left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n =$<br><b>1080</b> | $\left( \frac{2027052}{2476690} \right)^n =$<br><b>.8184</b> | $=$<br><b>.8606</b> | $=$<br><b>929 MCF/D</b> |
|-------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------|-------------------------|

REMARKS:

## SUMMARY

Item h **443** Psia  
P<sub>c</sub> **1644** Psia  
Q **1080** MCF/D  
P<sub>w</sub> **475** Psia  
P<sub>d</sub> **822** Psia  
D **929** MCF/D

Company **EL PASO NATURAL GAS COMPANY**  
By **H. L. Kendrick**  
Title **Regional Well Test Engineer**

Witnessed By

Company

