

Initial  
Deliverability

# NEW MEXICO OIL CONSERVATION COMMISSION WELL DELIVERABILITY TEST REPORT FOR 1971

Form C122-A  
Revised 1-1-68

|                    |                       |                     |                      |
|--------------------|-----------------------|---------------------|----------------------|
| POOL NAME<br>Basin | POOL SLOPE<br>n = .75 | FORMATION<br>Dakota | COUNTY<br>Rio Arriba |
|--------------------|-----------------------|---------------------|----------------------|

87-294

|                                               |                               |                                          |                                                 |                                                |                               |
|-----------------------------------------------|-------------------------------|------------------------------------------|-------------------------------------------------|------------------------------------------------|-------------------------------|
| COMPANY<br>El Paso Natural Gas Company        |                               |                                          | WELL NAME AND NUMBER<br>San Juan 27-5 Unit #123 |                                                |                               |
| UNIT LETTER<br>N                              | SECTION<br>17                 | TOWNSHIP<br>27N                          | RANGE<br>5W                                     | PURCHASING PIPELINE<br>El Paso Natural Gas Co. |                               |
| CASING O.D. - INCHES<br>4.500                 | CASING I.D. - INCHES<br>4.052 | SET AT DEPTH - FEET<br>7624              | CASING O.D. - INCHES<br>1.990                   | TUBING I.D. - INCHES<br>1.610                  | TOP TUBING PERF. FEET<br>7553 |
| GAS PAY ZONE<br>FROM 7366 TO 7581             |                               | WELL PRODUCTION THRU<br>CASING TUBING XX |                                                 | GAS GRAVITY<br>.641                            | GRAVITY LENGTH<br>4841        |
| DATE OF FLOW TEST<br>FROM 10-3-71 TO 10-11-71 |                               |                                          | DATE SHUT-IN PRESSURE MEASURED<br>8-17-71       |                                                |                               |

## PRESSURE DATA - ALL PRESSURES IN PSIA

|                                             |                                                 |                                           |                                           |                                                  |                                                            |                                                              |
|---------------------------------------------|-------------------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------|
| (a) Flowing Casing Pressure (DWt)<br>-----  | (b) Flowing Tubing Pressure (DWt)<br>-----      | (c) Flowing Meter Pressure (DWt)<br>----- | (d) Flow Chart Static Reading<br>-----    | (e) Meter Error (Item c - Item d)<br>0 ✓         | (f) Friction Loss (a-c) or (b-c)<br>0 ✓                    | (g) Average Meter Pressure (Integr.)<br>417                  |
| (h) Corrected Meter Pressure (g-e)<br>417 ✓ | (i) Avg. Wellhead Press. $P_w = (h+f)$<br>417 ✓ | (j) Shut-in Casing Pressure (DWt)<br>2647 | (k) Shut-in Tubing Pressure (DWt)<br>2309 | (l) $P_c$ = higher value of (j) or (k)<br>2647 ✓ | (m) Del. Pressure $P_d = \frac{50}{1324} \% P_c$<br>1324 ✓ | (n) Separator or Dehydrator Pr. (DWt) for critical flow only |

## FLOW RATE CORRECTION (METER ERROR)

|                                  |                                                            |                                                       |                                     |
|----------------------------------|------------------------------------------------------------|-------------------------------------------------------|-------------------------------------|
| Integrated Volume - MCF/D<br>861 | Quotient of $\frac{\text{Item c}}{\text{Item d}}$<br>1.000 | $\sqrt{\frac{\text{Item c}}{\text{Item d}}}$<br>1.000 | Corrected Volume<br>$Q = 861$ MCF/D |
|----------------------------------|------------------------------------------------------------|-------------------------------------------------------|-------------------------------------|

## WORKING PRESSURE CALCULATION

|                        |                                |                                                  |                     |                                   |                               |
|------------------------|--------------------------------|--------------------------------------------------|---------------------|-----------------------------------|-------------------------------|
| $(1-e^{-x})$<br>.297 ✓ | $(F_c Q_m)^2 (1000)$<br>200847 | $R^2 = (1-e^{-x}) (F_c Q_m)^2 (1000)$<br>59652 ✓ | $P_i^2$<br>173889 ✓ | $P_w^2 = P_i^2 + R^2$<br>233541 ✓ | $P_w = \sqrt{P_w^2}$<br>483 ✓ |
|------------------------|--------------------------------|--------------------------------------------------|---------------------|-----------------------------------|-------------------------------|

## DELIVERABILITY CALCULATION

|                                                                    |                                                                |               |
|--------------------------------------------------------------------|----------------------------------------------------------------|---------------|
| $D = Q \left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = 861$ | $\left( \frac{5253633}{6773068} \right)^n = (.7757)^n = .8265$ | $= 712$ MCF/D |
|--------------------------------------------------------------------|----------------------------------------------------------------|---------------|

REMARKS: New Well first delivered September 17, 1971.

## SUMMARY

|        |        |       |
|--------|--------|-------|
| Item h | 417 ✓  | Psia  |
| $P_c$  | 2647 ✓ | Psia  |
| Q      | 861 ✓  | MCF/D |
| $P_w$  | 483 ✓  | Psia  |
| $P_d$  | 1324 ✓ | Psia  |
| D      | 712 ✓  | MCF/D |

Company El Paso Natural Gas Company  
By *[Signature]*  
Title  
Witnessed By  
Company

