

# WORKSHEET FOR CALCULATION OF ST. C COLUMN WELLHEAD PRESSURE (P<sub>w</sub>)

C-122D  
Adapted 9-1-65

COMPANY Exxon LEASE Exxon WELL NO. 1 DATE 6-22-66

LOCATION: Unit E Section 4 Township 24 Range 21

L 12.102 H 12.102 L/H 1.000 G 1.000 % CO<sub>2</sub> 0 % N<sub>2</sub> 0 % H<sub>2</sub>S 0

d 0.000 F<sub>r</sub> 1.000000 GH 7708 P<sub>cr</sub> 1.2 T<sub>cr</sub> 2000

TABLE IX & X

| LINE                                                                                      | 15T     | 20T     | 15T     | 20T     | 15T     | 20T     | 15T     | 20T     | 15T     | 20T     |
|-------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 Q <sub>m</sub>                                                                          | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   |
| 2 T <sub>w</sub> (W.H. °R)                                                                | 534     | 534     | 534     | 534     | 534     | 534     | 534     | 534     | 534     | 534     |
| 3 T <sub>s</sub> (B.H. °R)                                                                | 668     | 668     | 668     | 668     | 668     | 668     | 668     | 668     | 668     | 668     |
| 4 T = ( $\frac{T_w + T_s}{2}$ )                                                           | 601     | 601     | 601     | 601     | 601     | 601     | 601     | 601     | 601     | 601     |
| 5 Z (Est.)                                                                                | 1.088   | 1.158   | 1.051   | 1.115   | 1.004   | 1.062   | 1.539   | 1.986   | 1.539   | 1.986   |
| 6 TZ                                                                                      | 653.9   | 696     | 632     | 670     | 603     | 638     | 564     | 593     | 564     | 593     |
| 7 GH/TZ                                                                                   | 11.758  | 11.758  | 12.203  | 11.503  | 12.77   | 12.08   | 13.658  | 13.007  | 13.658  | 13.007  |
| 8 e <sup>s</sup> (Table XIV)                                                              | 1.556   | 1.556   | 1.580   | 1.539   | 1.615   | 1.573   | 1.669   | 1.629   | 1.669   | 1.629   |
| 9 1-e <sup>s</sup> (Table XIV)                                                            | .359    | .359    | .367    | .350    | .391    | .369    | .401    | .386    | .401    | .386    |
| 10 P <sub>t</sub>                                                                         | 6203.2  | 6203.2  | 6203.2  | 6203.2  | 6203.2  | 6203.2  | 6203.2  | 6203.2  | 6203.2  | 6203.2  |
| 11 P <sub>t</sub> <sup>2</sup> /1000                                                      | 38477.5 | 38477.5 | 33630.7 | 33630.7 | 37198.3 | 37198.3 | 18924.2 | 18924.2 | 18924.2 | 18924.2 |
| 12 F <sub>t</sub> (Table XV)                                                              | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   |
| 13 F <sub>c</sub> = F <sub>t</sub> TZ                                                     | 1.000   | 1.000   | 3.995   | 4.238   | 3.816   | 4.027   | 3.569   | 3.748   | 3.569   | 3.748   |
| 14 F <sub>c</sub> Q <sub>m</sub>                                                          | 1.000   | 1.000   | 4.666   | 4.950   | 4.480   | 4.855   | 4.035   | 4.437   | 4.035   | 4.437   |
| 15 L/H (F <sub>c</sub> Q <sub>m</sub> ) <sup>2</sup>                                      | 12.713  | 12.713  | 21.774  | 21.507  | 41.945  | 46.957  | 64.556  | 71.18   | 64.556  | 71.18   |
| 16 F <sub>w</sub> = L/H (F <sub>c</sub> Q <sub>m</sub> ) <sup>2</sup> (1-e <sup>s</sup> ) | 4.764   | 4.764   | 2.996   | 3.586   | 15.984  | 17.113  | 25.875  | 27.476  | 25.875  | 27.476  |
| 17 P <sub>w</sub> <sup>2</sup> = P <sub>t</sub> <sup>2</sup> + F <sub>w</sub>             | 38477.5 | 38477.5 | 33630.7 | 33630.7 | 37198.3 | 37198.3 | 18924.2 | 18924.2 | 18924.2 | 18924.2 |
| 18 P <sub>s</sub> <sup>2</sup> = e <sup>s</sup> P <sub>w</sub> <sup>2</sup>               | 59632.9 | 59632.9 | 53158.9 | 51751.7 | 43632.8 | 42805.0 | 31626.7 | 30866.5 | 31626.7 | 30866.5 |
| 19 P <sub>s</sub>                                                                         | 7725.0  | 7725.0  | 7291.0  | 7193.0  | 6626.6  | 6542.6  | 5623.8  | 5555.8  | 5623.8  | 5555.8  |
| 20 P = ( $\frac{P_t + P_s}{2}$ )                                                          | 11.6    | 11.6    | 11.6    | 11.6    | 11.6    | 11.6    | 11.6    | 11.6    | 11.6    | 11.6    |
| 21 P <sub>r</sub> = (P/P <sub>cr</sub> )                                                  | 10.44   | 10.36   | 9.74    | 9.67    | 8.81    | 8.75    | 7.42    | 7.37    | 7.42    | 7.37    |
| 22 T <sub>r</sub> = (T/T <sub>cr</sub> )                                                  | 1.72    | 1.72    | 1.72    | 1.72    | 1.72    | 1.72    | 1.72    | 1.72    | 1.72    | 1.72    |
| 23 Z (Table XI)                                                                           | 1.158   | 1.154   | 1.115   | 1.111   | 1.062   | 1.058   | .986    | .986    | .986    | .986    |