

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

Form No. 9-1-65

COMPANY Yates Petroleum Corp LEASE West Dixon "N2" St WELL NO. 41 DATE 1/14/82

LOCATION: Unit E Section 27 Township 7S Range 24E

L 3340 H 3340 L/H 1.000 G .669 % CO<sub>2</sub> 0.42 % N<sub>2</sub> 13.96 % H<sub>2</sub>S 8

d 1.995 F<sub>i</sub> .01823 GH 2234 P<sub>ci</sub> 646 T<sub>ci</sub> 339

| LINE                                                                                      | Rate #1 | Rate #2 | Rate #3 | Rate #4 |  |  |
|-------------------------------------------------------------------------------------------|---------|---------|---------|---------|--|--|
| 1 D <sub>m</sub>                                                                          | .057    | .045    | .034    | .029    |  |  |
| 2 T <sub>g</sub> (L/H, R)                                                                 | 526     | 526     | 526     | 526     |  |  |
| 3 T <sub>g</sub> (T <sub>g</sub> , R)                                                     | 556     | 556     | 556     | 556     |  |  |
| 4 T <sub>g</sub> (T <sub>g</sub> , R)                                                     | 541     | 541     | 541     | 541     |  |  |
| 5 T <sub>g</sub> (T <sub>g</sub> , R)                                                     | .960    | .942    | .926    | .920    |  |  |
| 6 T <sub>g</sub> (T <sub>g</sub> , R)                                                     | 519.36  | 509.62  | 500.97  | 497.72  |  |  |
| 7 CH/2                                                                                    | 4.301   | 4.384   | 4.459   | 4.488   |  |  |
| 8 e <sup>s</sup> (T <sub>g</sub> , R)                                                     | 1.175   | 1.179   | 1.182   | 1.183   |  |  |
| 9 1-e <sup>s</sup> (T <sub>g</sub> , R)                                                   | .149    | .152    | .154    | .155    |  |  |
| 10 P <sub>i</sub>                                                                         | 278.2   | 466.2   | 596.2   | 663.2   |  |  |
| 11 P <sub>i</sub> (T <sub>g</sub> , R)                                                    | 77.4    | 216.4   | 355.5   | 439.8   |  |  |
| 12 F <sub>i</sub> (T <sub>g</sub> , R)                                                    | .01823  | .01823  | .01823  | .01823  |  |  |
| 13 F <sub>i</sub> = F <sub>i</sub> T <sub>i</sub>                                         | 9.468   | 9.290   | 9.133   | 9.073   |  |  |
| 14 F <sub>i</sub> Q <sub>m</sub>                                                          | .540    | .418    | .311    | .263    |  |  |
| 15 L/H (F <sub>i</sub> Q <sub>m</sub> ) <sup>2</sup>                                      | .291    | .176    | .096    | .069    |  |  |
| 16 F <sub>w</sub> = L/H (F <sub>i</sub> Q <sub>m</sub> ) <sup>2</sup> (1-e <sup>s</sup> ) | .043    | .027    | .015    | .011    |  |  |
| 17 P <sub>w</sub> <sup>2</sup> = P <sub>i</sub> <sup>2</sup> + F <sub>w</sub>             | 77.4    | 216.4   | 355.5   | 439.8   |  |  |
| 18 P <sub>s</sub> <sup>2</sup> = e <sup>s</sup> P <sub>w</sub> <sup>2</sup>               | 91.0    | 253.2   | 420.2   | 520.3   |  |  |
| 19 P <sub>s</sub>                                                                         | 361.6   | 505.2   | 648.2   | 721.3   |  |  |
| 20 P = (P <sub>i</sub> + P <sub>s</sub> )                                                 | 289.9   | 485.2   | 622.2   | 692.3   |  |  |
| 21 P <sub>r</sub> = (P/P <sub>ci</sub> )                                                  | .45     | .75     | .96     | 1.07    |  |  |
| 22 T <sub>r</sub> = (T/T <sub>ci</sub> )                                                  | 1.60    | 1.60    | 1.60    | 1.60    |  |  |
| 23 T <sub>r</sub> (T <sub>r</sub> , R)                                                    | .960    | .942    | .926    | .920    |  |  |