

WORK SHEET FOR STEPWISE CALCULATION  
(SUBSURFACE) PRESSURE (P<sub>f</sub> & P<sub>s</sub>)  
(SURFACE) (P<sub>c</sub> & P<sub>w</sub>)

4th

Form C-122-E  
Adopted 9-1-65

COMPANY Cities Service Oil Co. State CP WELL NO. #1 DATE 2/22/74

LOCATION: Unit J Section 9 Township 21S Range 97E

L 13852 H 13852 L/H 1.000 G 1.589 % CO<sub>2</sub> 0 % N<sub>2</sub> 0 % H<sub>2</sub>S 0  
d 2.000 F<sub>i</sub> 1.010 Q<sub>m</sub> 0 M<sub>2</sub> 0 (L/H) (F<sub>i</sub> Q<sub>m</sub>)<sup>2</sup> 0 P<sub>ci</sub> 1.723 T<sub>ci</sub> 344  
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| LINE | ITEM                                             | SOURCE                          | 1       | 2       | 3       | 4       | 5       | 6       | 7                        | 8 | 9 | 10 |
|------|--------------------------------------------------|---------------------------------|---------|---------|---------|---------|---------|---------|--------------------------|---|---|----|
| 1    | H                                                |                                 | 13852   | 6926    |         | 0       |         |         |                          |   |   |    |
| 2    | GH                                               |                                 | 8152.83 | 4079.41 |         | 0       |         |         |                          |   |   |    |
| 3    | 37.5GH                                           |                                 | 305956  | 152972  |         | 0       |         |         |                          |   |   |    |
| 4    | P <sub>c</sub> or P <sub>n</sub>                 |                                 | 3767.0  | 3352.0  | 3332.0  | 2906.5  | 2850.4  | 2094.6  | P <sub>ci</sub> = 2842.4 |   |   |    |
| 5    | P <sub>i</sub>                                   |                                 | 5.60    | 4.79    | 4.96    | 4.33    | 4.24    | 4.25    |                          |   |   |    |
| 6    | T                                                |                                 | 29.0    | 1.00    | 6.04    | 2.34    | 4.34    | 4.24    |                          |   |   |    |
| 7    | T <sub>i</sub>                                   |                                 | 2.04    | 1.77    | 1.77    | 1.51    | 1.51    | 1.51    |                          |   |   |    |
| 8    | Z                                                |                                 | .972    | .912    | .911    | .785    | .782    | .782    |                          |   |   |    |
| 9    | P/Z P/Z                                          | 4.8                             | 382.6   | 3626.6  | 3660.9  | 2905.1  | 3645.1  | 3644.2  |                          |   |   |    |
| 10   | P/TZ                                             | 9.6                             | 5.3623  | 5.8944  | 5.8294  | 6.9384  | 6.8259  | 6.8234  |                          |   |   |    |
| 11   | (P/TZ) <sup>2</sup> /1000                        | (11) <sup>2</sup> /100          |         |         |         |         |         |         |                          |   |   |    |
| 12   | L/H(F <sub>i</sub> Q <sub>m</sub> ) <sup>2</sup> |                                 |         |         |         |         |         |         |                          |   |   |    |
| 13   |                                                  | I <sub>i</sub> + I <sub>2</sub> |         |         |         |         |         |         |                          |   |   |    |
| 14   | I <sub>n</sub>                                   | I <sub>0</sub> + I <sub>3</sub> | 186.486 | 120.811 | 121.544 | 144.126 | 146.560 | 146.314 |                          |   |   |    |
| 15   | M = P <sub>n</sub> - P <sub>n-1</sub>            |                                 | 410     | 428     | 427     | 425     | 421     | 421     |                          |   |   |    |
| 16   | N = I <sub>n</sub> + I <sub>n-1</sub>            |                                 | 357.237 | 358.036 | 358.600 | 318.044 | 317.958 | 317.958 |                          |   |   |    |
| 17   | M x N                                            | I <sub>5</sub> x I <sub>6</sub> | 152.037 | 152.037 |         |         | 152.037 | 152.037 |                          |   |   |    |
| 18   | Σ(M x N)                                         | Σ I <sub>7</sub>                | 152.037 |         |         |         |         |         |                          |   |   |    |