ERRATA

Page 26, Section E.1.7, replace the content of this section with the following:

E.1.7 Conduct leakage test and document results. For gas wells, flow rates can be computed from pressure build-up by the following formulae.

\[
q = 2.84 \times 10^3 \left( \frac{\Delta p}{Z} \right) \left( \frac{1}{t} \right) \left( \frac{V}{T} \right) \quad \text{(SI units)}
\]

\[
q = 35.37 \left( \frac{\Delta p}{Z} \right) \left( \frac{1}{t} \right) \left( \frac{V}{T} \right) \quad \text{(USC units)}
\]

where

\[
\left( \frac{\Delta p}{Z} \right) \text{ is the final pressure } p_f \text{ divided by final } Z_f \text{ minus initial pressure } p_i \text{ divided by initial } Z_i;
\]

\( q \) is the leakage rate, m\(^3\)/min (SCF/min);

\( p \) is the pressure, in MPa (psi);

\( Z \) is the compressibility factor;

\( t \) is the build-up time, in min, to reach a stabilized pressure;

\( V \) is the volume of the tubing string above the SSSV, in m\(^3\), (ft\(^3\));

\( T \) is the absolute temperature at the SSSV, in °C + 273 (°F + 460).

For low-pressure application, this formula may be simplified as follows:

\[
q = \frac{9.68}{t} \Delta p \frac{V}{t} \quad \text{(SI units)}
\]

\[
q = 6.67 \times 10^{-2} \Delta p \frac{V}{t} \quad \text{(USC units)}
\]