

The Practice of Well Test Interpretation

Golden Rules

1. Well Test Interpretation (WTI) is much more than Pressure Transient Analysis (PTA).
2. Be very critical of all data.
3. It is better to measure something than to calculate it.
4. Good measurements cost money. Bad ones cost more!
5. The longer the flow period, the more information you can extract from a drawdown/buildup.
6. While interpolation is usually safer than extrapolation, both should be used with caution.
7. What the gauge sees is not always what the reservoir sees. Wellbore transients will dominate over reservoir transients.
8. If it happens suddenly, it is not a reservoir effect.
9. Examine the PPD to differentiate between wellbore and reservoir effects.
10. A buildup (in Cartesian coordinates) will always be continuously concave downward for a single-phase fluid. This is true no matter how complex the reservoir, be it fractured, multi-layered (with equal p_i), bounded, multi-permeability, or otherwise.
11. Draw a wellbore schematic and identify the location of the pressure gauge(s) and producing zone(s). Remember that PTA uses bottom-hole pressures, so conversion of wellhead pressures may be required.
12. When possible, run a gradient survey both before and after a test.
13. Run a gradient survey as close as possible to the point where production enters the wellbore.
14. Read the field reports carefully. For example, compare wellhead measurements (tubing/casing pressure and temperature) to those of the down-hole gauge to confirm that the correct numbers are being used.
15. Even temperature has secrets to reveal.
16. Remember, the computer is only a calculator, not an interpreter.
17. **Keep it simple.**