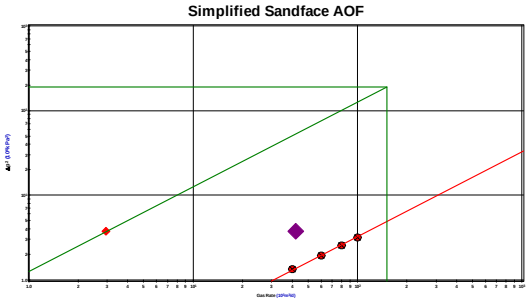
WELLTEST SPECIALISTS

TechTips

Multi-point Isochronal Tests in high deliverability gas wells help quantify turbulence factors for rate-dependent skin and tubing performance evaluations. Isochronal tests can even illuminate blocked, crimped, or parted tubing issues. In Alberta all wells with a transient AOF >300 e^3m^3/d require an isochronal test. BC-OGC generally defaults to AER (ERCB, AEUB) rules. In Saskatchewan all gas wells require an isochronal test.

Sequential Flow & Shut-in

Isochronal flow tests involve sequences of flow and shut-in periods. Inflow rates are incremented for each point.



AOF >300 e^3m^3/d

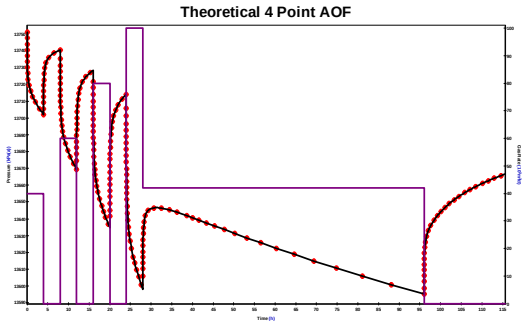
Alberta requires an isochronal test in this case, mainly for sour gas blowout considerations. If you didn't acquire the data a 'Single Point AOF-PAS File Authorization' (SGPTAU) code can be applied for. Otherwise, if there is a flow & build-up test, we can analyze it (PTA) and submit a theoretical AOF.

4-Point Isochronal Test

For original test theory incremental flow and shut-in pressures needed to reach stabilization. Sequences were thus not necessarily equal in time. This process is lengthy and thus quite impractical.

Modified 4-Point Isochronal Test

The convenient and practical approach to testing is equal time periods. Usually four 4 h periods segue to an extended flow and build-up test. Four 4 h flow & shut-in periods add up to 28 h:



4-Point Flow-After-Flow Test

In high flow capacity systems shut-in periods can be eliminated, and flow time sequences shortened. Typically 2 h works well so you are done in 8 h.

Oil Well Tubing Performance

Isochronal tests are useful for tubing performance evaluations on very high productivity oil wells.

Blowout Engineering

Turbulence factors will be especially relevant if there are sour gasses and notification/evacuation plans.

Water Coning

Drawdown magnitude (%) should be carefully planned if there is any possibility of water coning.