

Assuming that the result of a wireline formation test analysis is a description of spherical permeability, k_{sp} , for each layer, the additional information required to calculate the storage

of assumptions are made. In particular, the permeability anisotropy must be known or estimated.

Conclusions

- A well test can be replaced by a wireline formation test if the objectives of the well test can be met by the wireline formation test.
- In lower permeability reservoirs (mobilities less than about 100 mD/cp), the quality of data recorded by wireline formation test tools is suitable for pressure transient interpretation. In higher permeability, the resolution of the pressure gauge limits the quality of the data often precluding transient analysis and the FRA method then provides the best estimate of mobility.

cases where an observation gauge is used to measure vertical interference, there is also the possibility to evaluate permeability anisotropy.

- Upscaling the permeabilities derived from wireline formation tests to a prediction of the performance of a fully completed well is possible provided a number

of assumptions are made. In particular, the permeability anisotropy must be known or estimated.

Langstaff, S. "Frequency Aided Questions in Well Test Analysis" paper SPE 63077 presented at the 2000 SPE Annual Technical Conference and Exhibition, Dallas, Texas, Oct. 1-4.

¹² Goode, P.A. and Thambynayagam, R.M.: "Permeability Determination With a Multiprobe Formation Tester," SPEFE (Dec 1982) 297 (SPE 29737)

¹³ Proett, M. A., et al.: "Advanced Dual Probe Formation Tester with Transient, Harmonic, and Pulsed Time-Delay Testing Methods