

Conclusions and Recommendations The straight line method for solving the material balance equation introduces a dynamic aspect to the interpretation of individual points, contrasting with conventional methods that often treat each point separately or through averaging techniques. 5 and 6 outline a method for calculating the interference correction factor. Hence, the accurate plotting and analysis of these points are crucial for insightful interpretation. While theoretically applicable to all cases, the straight line method has encountered limited success in specific scenarios, such as reservoirs without water drive and those with a known gas cap. Furthermore, once these points are identified for exclusion, they must be consistently omitted from all subsequent analyses. The straight-line equation to be plotted in such a case is $F + \text{Correction for interference} / E_o = N + C \cdot p_Q \cdot t_d / E_o$ Refs. With the straight line method, emphasis is placed on the dynamic sequence of plotted points and the resulting plot's shape. Moreover, the presence of pressure derivatives in water-driven reservoirs necessitates exceptionally precise data. Exceptional accuracy in basic data, particularly pressure measurements, is essential when dealing with gas cap reservoirs. This may result from inaccuracies in early average production– pressure–PVT data or due to the delayed impact of pressure–production effects on the entire active oil-in-place volume.