

## عنوان مقاله:

Flowing Material Balance Equations for Waterdrive Oil Reservoirs

## محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

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## خلاصه مقاله:

This paper presents new equations that account for non-volumetric effects of limited aquifers on production data analysis of single phase oil reservoirs by defining a new material balance time function. This new time function and material balance time help us to introduce flowing materialbalance (FMB) equations for such reservoirs. Validity of these equations is justified using analytical solutions. For development of analytical solutions, special simplifying assumptions are considered. To justify these assumptions, comparison is made using a commercial numerical reservoir simulator across some ranges of reservoir parameters. Furthermore, it is shown that the given FMB equations are applicable for any irregularly shaped reservoir which is partially contacted with a non-cylindrical limited edge aquifer. For such reservoir geometries, numerical solution is used for justification. This is followed by introducing a simple equation for estimating average reservoir pressure.

## کلمات کلیدی:

oil in place, material balance time, production data, flowing material balance, waterdrive

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/341344>

