

# Material Balance Analysis = MatBal

Specific type of [Production Analysis \(PA\)](#) workflow based on correlation between single-well or multi-well [production/injection history](#) and [field-average formation pressure](#).

The key assumption of [MatBal](#) is a [pseudo-steady state](#) correlation between [cumulative offtakes/intakes](#) and [formation pressure dynamics](#).

It does not require new data acquisition at well site and makes use of existing dynamic data records.

There are two major engines of [MatBal](#) analysis:

MatBal Pressure @model	MatBal Flow @model
Formation pressure model only	Formation pressure and flowrate model

In some cases a similar analysis can be performed using the correlation between [production/injection history](#) and [BHP](#) which is called [Flowing Material Balance Analysis \(FMB\)](#).

## Objectives

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Check if the field is under <a href="#">volume-constrained production (PSS)</a>
Assess drainage volume
Assess reservoir compressibility
Check if water and gas propagation match uniform sweep model
Verify oil/gas FVF

## See Also

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[Petroleum Industry / Upstream / Production / Subsurface Production / Field Study & Modelling / Production Analysis / Material Balance Analysis](#)

[ [Material Balance Pressure @model](#) ] [ [Material Balance Flow @model](#) ]

[ [Flowing Material Balance Analysis \(FMB\)](#) ]