

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

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

See Also

[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 \(FMB\)](#)]