

# Pressure Drop

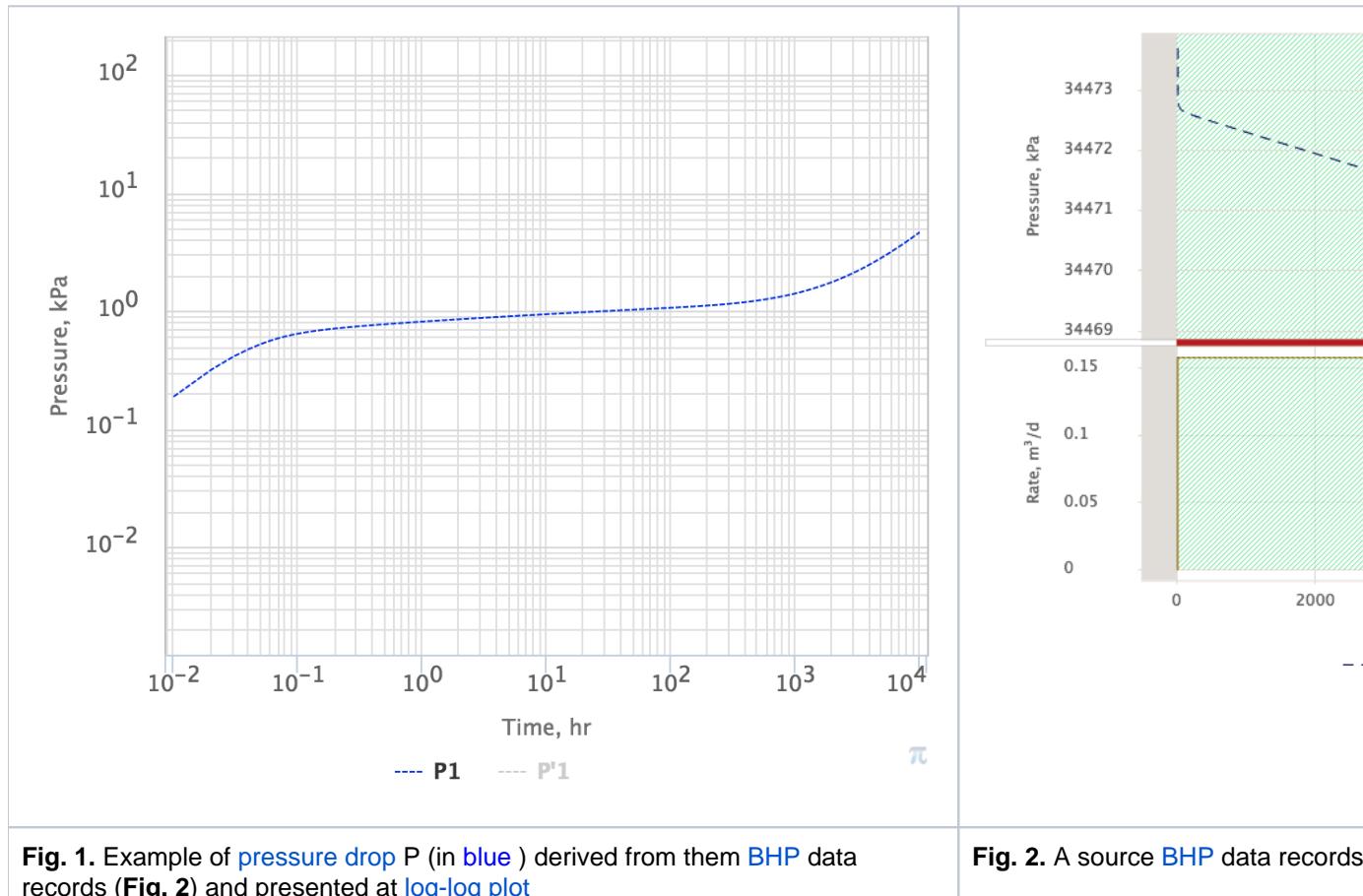
Pressure difference between the current bottom-hole pressure  $p_{wf}(t)$  and the bottom-hole pressure  $p_{wf}(t_0)$  at time moment  $t = t_0$  when flowrate has changed :

$$\delta p(t) = p_{wf}(t_0) - p_{wf}(t)$$

Pressure drop is:

<b>positive</b>	$\delta p(t) > 0$	when production rate is increased or injection rate is decreased
<b>negative</b>	$\delta p(t) < 0$	when production rate is decreased or injection rate is increased

On log-log plots the pressure drop is always pictured as positive (see Fig. 1).



In particular case when the well has been shut-in for a long time and bottom-hole pressure has stabilised by the time moment  $t_0$  and when well is opened for flow the pressure drop will be equal to pressure drawdown:

$$\text{pressure drop} = \delta p(t) = p_{wf}(t_0) - p_{wf}(t) = p_e - p_{wf}(t) = \Delta p(t) = \text{pressure drawdown}$$

as the initial bottom-hole pressure value  $p_{wf}(t_0)$  represents formation pressure  $p_e$ :  $p_{wf}(t_0) = p_e$

## See Also

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