ASNWER THIS PROBLEM USING THE FIELD BELOW

PROBLEM 1 (5 POINTS). When deriving analytically the IPR equation for a saturated oil well with solution gas drive, one needs to integrate the term $k_{ro}/(B_o \cdot \mu_o)$ from bottom-hole to reservoir pressure.

Task 1 (2 POINTS). Make a sketch showing how does the term $k_{ro}/(B_o \cdot \mu_o)$ behaves versus pressure.

Task 2 (3 POINTS). In the video lectures, for one particular case, the output of the analytical derivation was Vogel's equation. What assumptions must be taken for this to occur?