Petrophysical Methodology

- Calculated total porosity from Haliburton Energy Services Density Neutron cross plot chart CPdsnII-1b RhoF = 1.0 g/cc.
  - PHIA curve
- Calculated shale volume from GR with Steiber correction.
  - Vshl = (GR-GRcln) / (GRshl-GRcln)
  - Vshl Steiber = 1.7 - (3.38 - (Vshl+0.7)^2)^0.5
- Calculated Effective Porosity from following equation.
  - PHIE = PHIA * (1- Vshl Steiber)
- Calculated porosity using Modified Simandoux
  - SwMS curve
- Calculated Permeability with Coates Equation.
  - K_coates = (70 * PHIE^2 * (1- Swirr)/Swirr)^2
    Where; Swirr is 40%
- Cut off used were as follows:
  - V Shale (Shale Volume from GR) cut off was 40%
  - Effective Porosity PHIE (Effective Porosity) cut off was 9%
- Constant Parameters;
  - Rw = .0.1 at formation Temperature
  - A=1, M = 2, N = 2
- Hierarchy is as follows for nomenclature;
  - Gross Sand (Vshale < Cut Off 40%)
  - Net Sand (Vshale < Cut Off 40% and PHIE > Cut Off 9%)