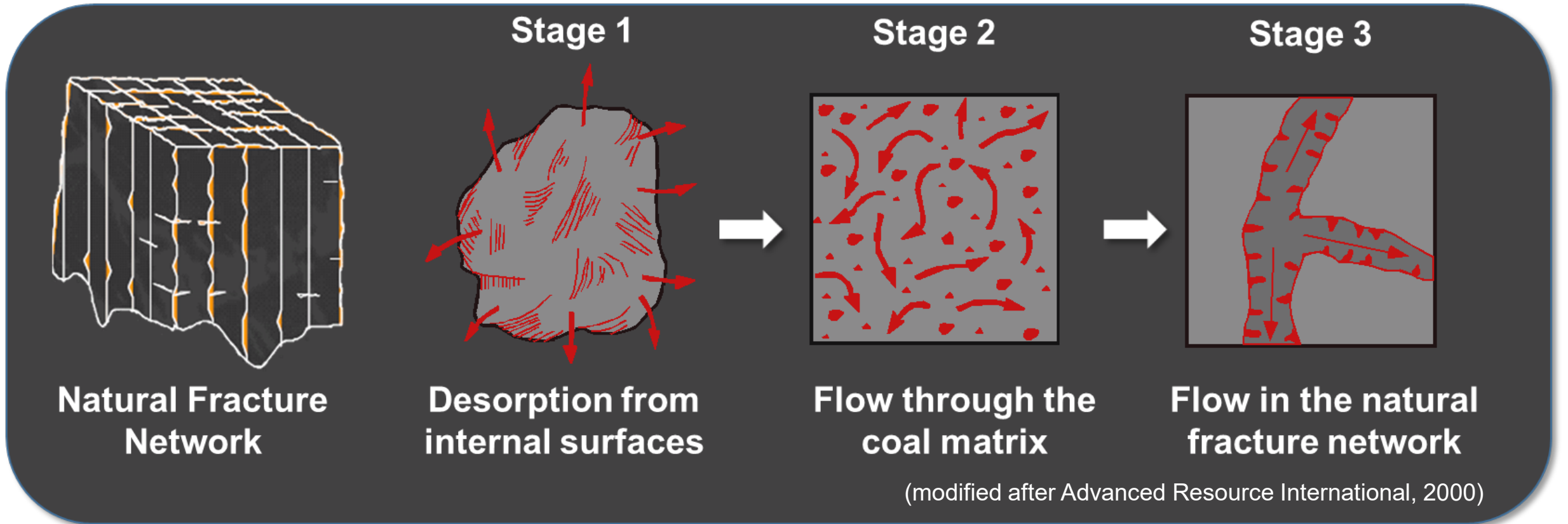


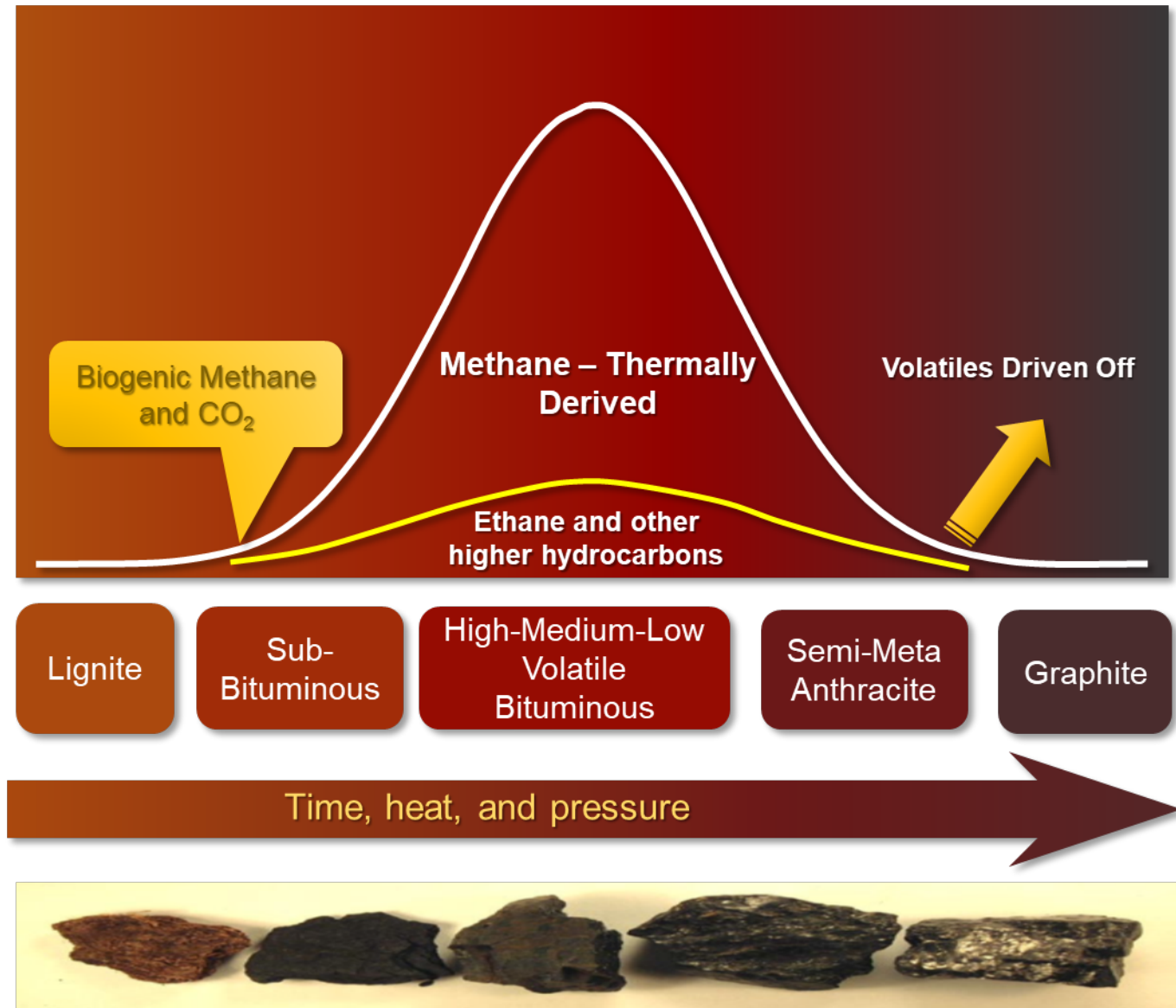


CBM Basics

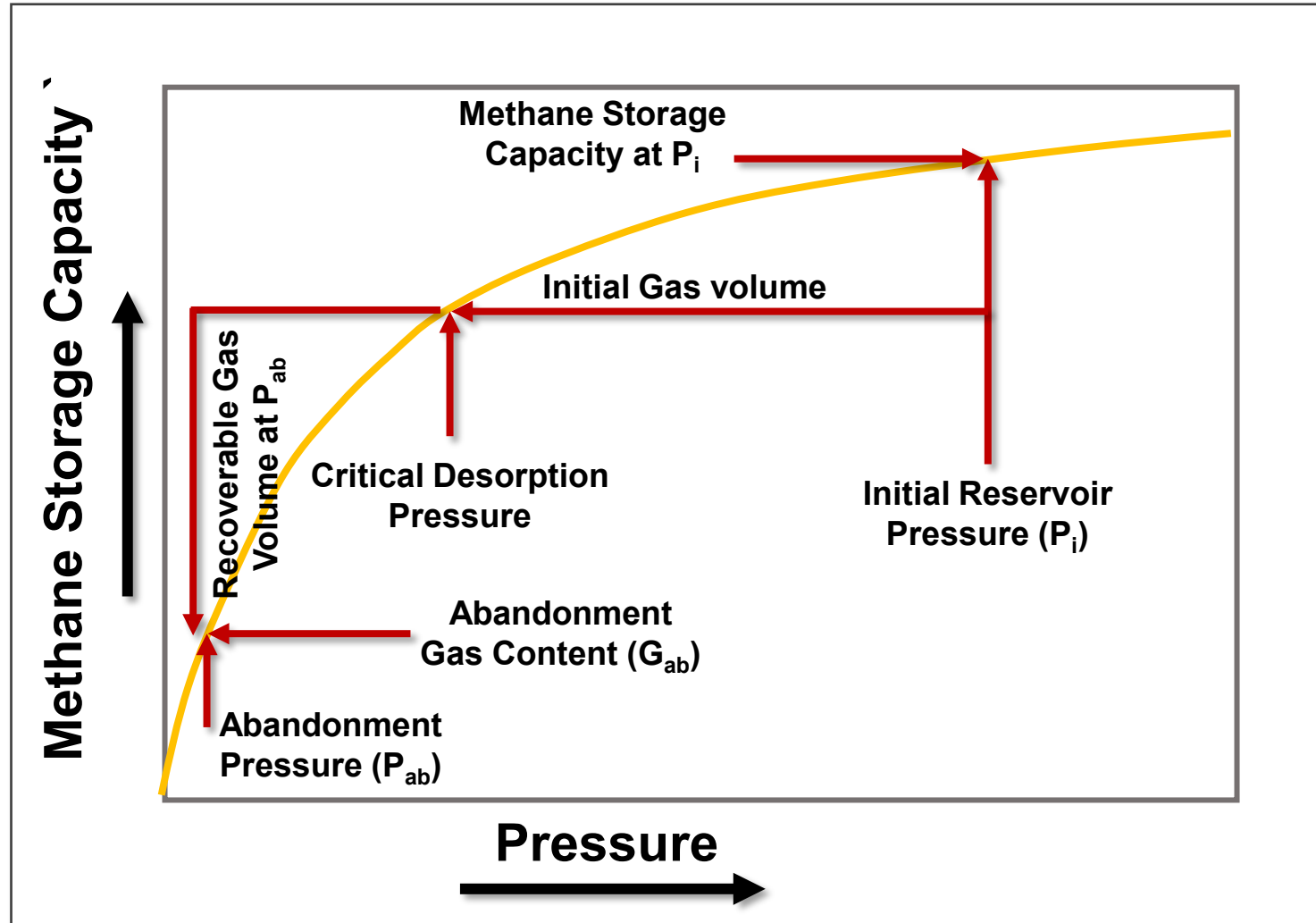
Schematic illustration of gas flow process in coal



Schematic illustration of methane generation with coal maturity

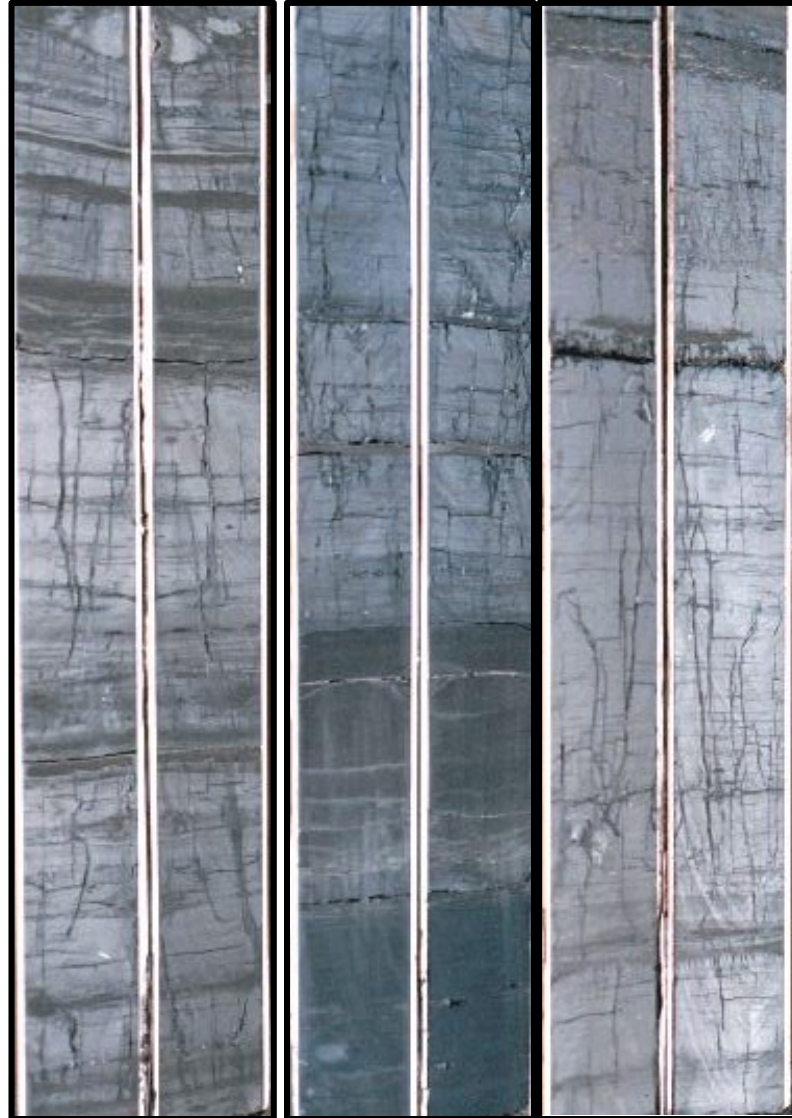


Schematic illustration of gas saturation and recovery factor from adsorption Isotherm data

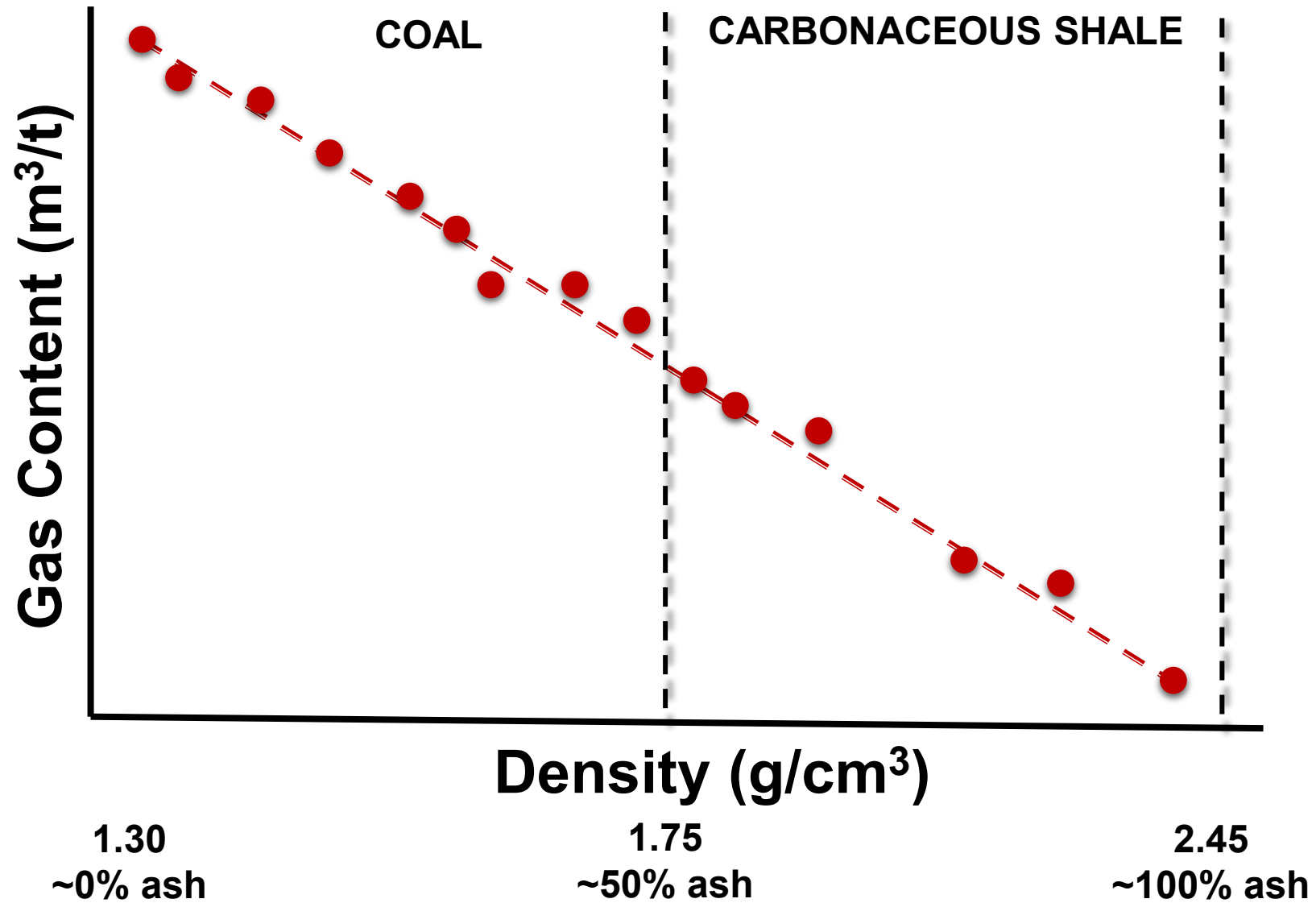


$$\text{Gas Saturation (\%)} = (\text{Initial Gas content} / \text{Methane Adsorption Capacity at } P_i)$$
$$\text{Gas Recovery Factor (\%)} = (\text{Recoverable Gas Volume at } P_{ab} / \text{Initial Gas volume}) \times 100$$

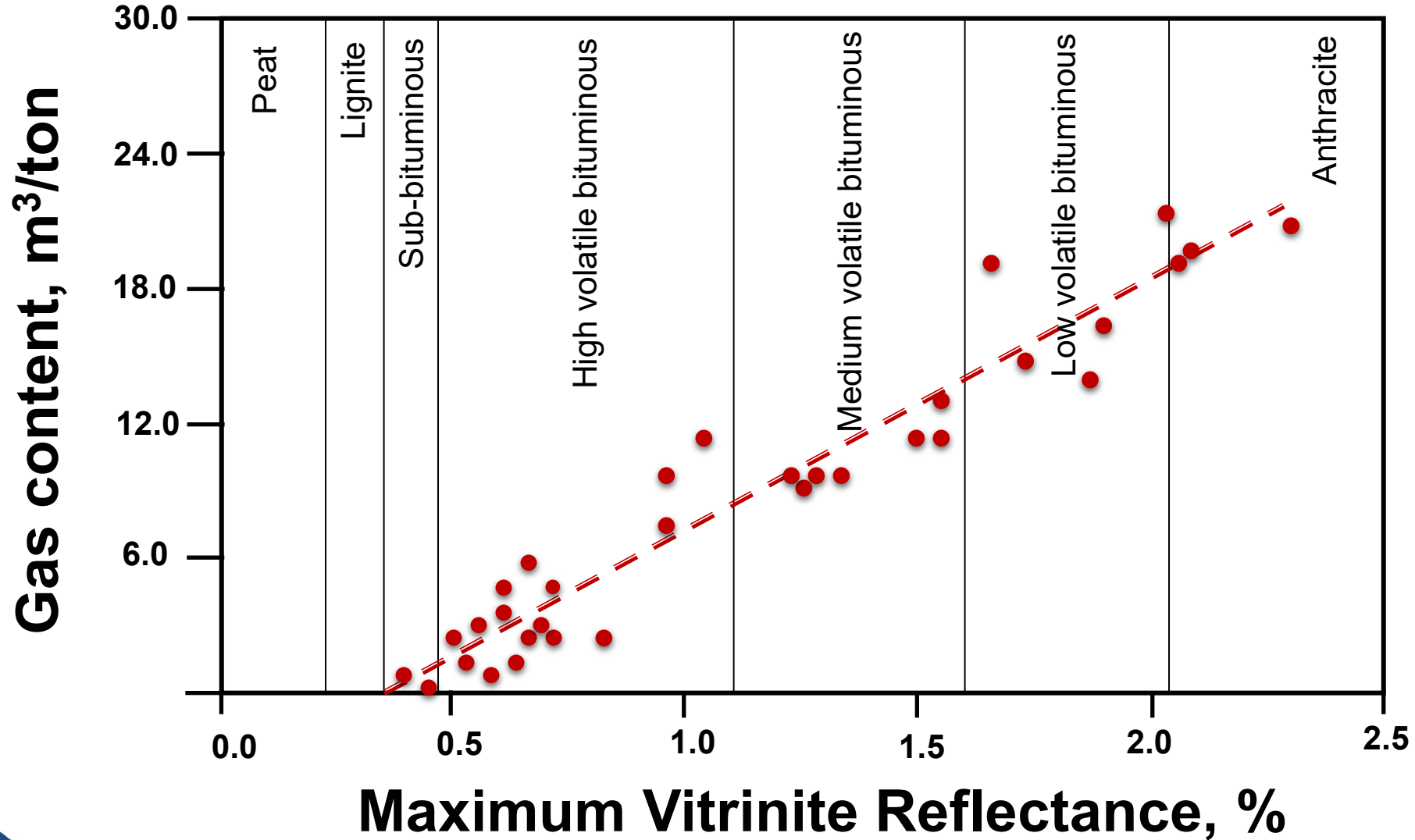
Natural Fracture network (cleats and joints) within subbituminous to high volatile bituminous coals, Surat Basin, Australia



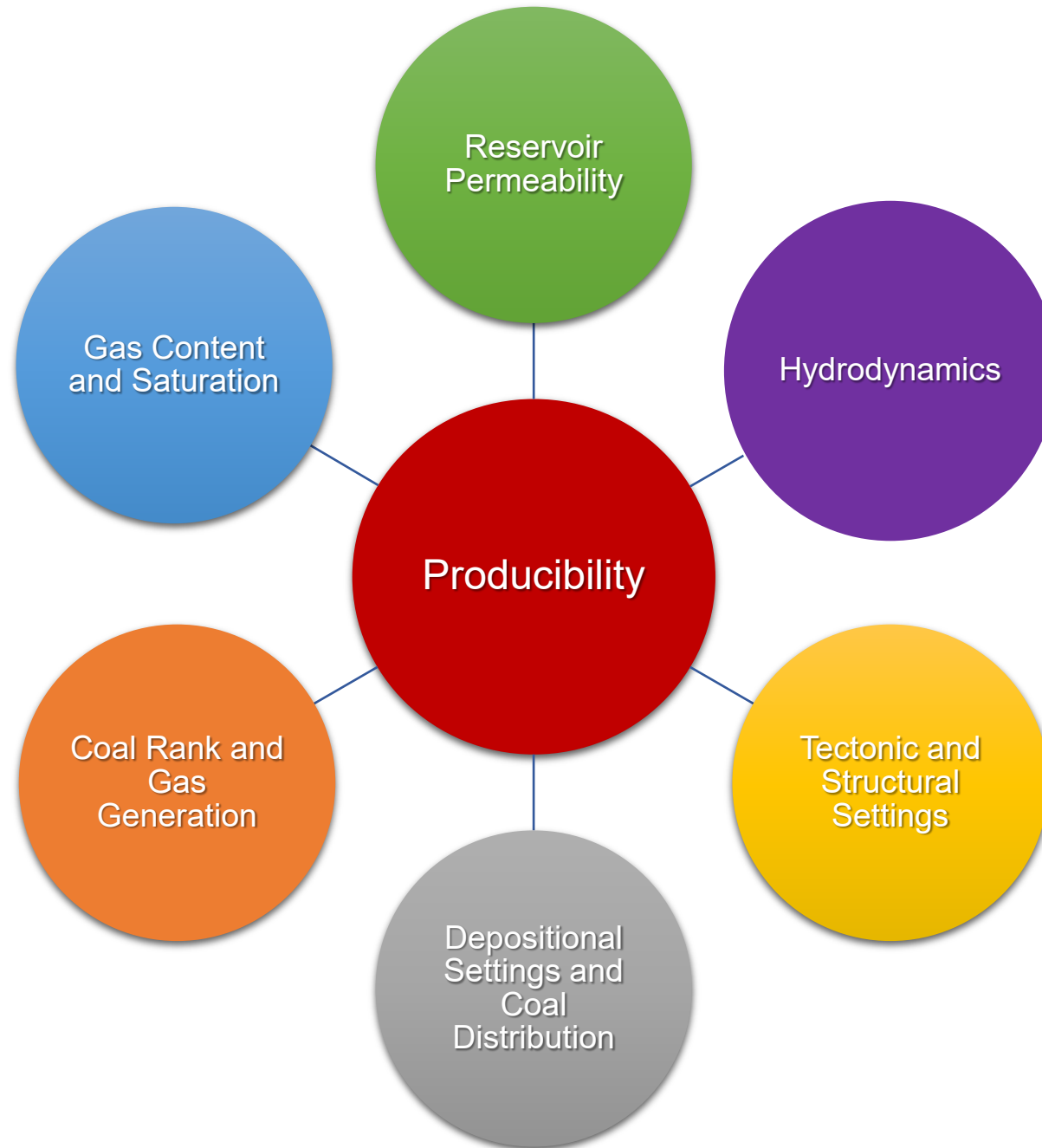
Gas content relationship with ash (inorganic) content in coal



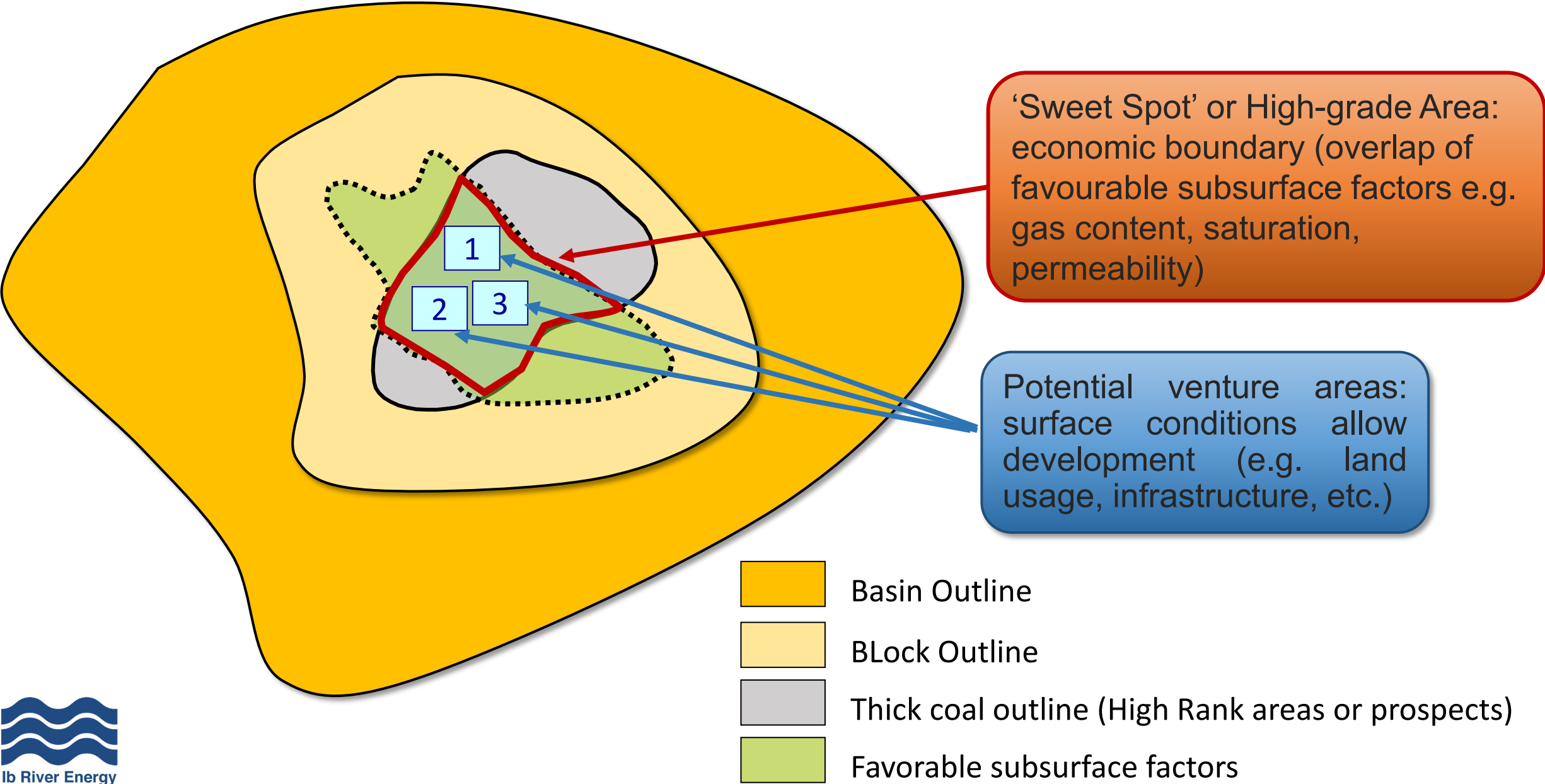
Effect of coal rank on gas content



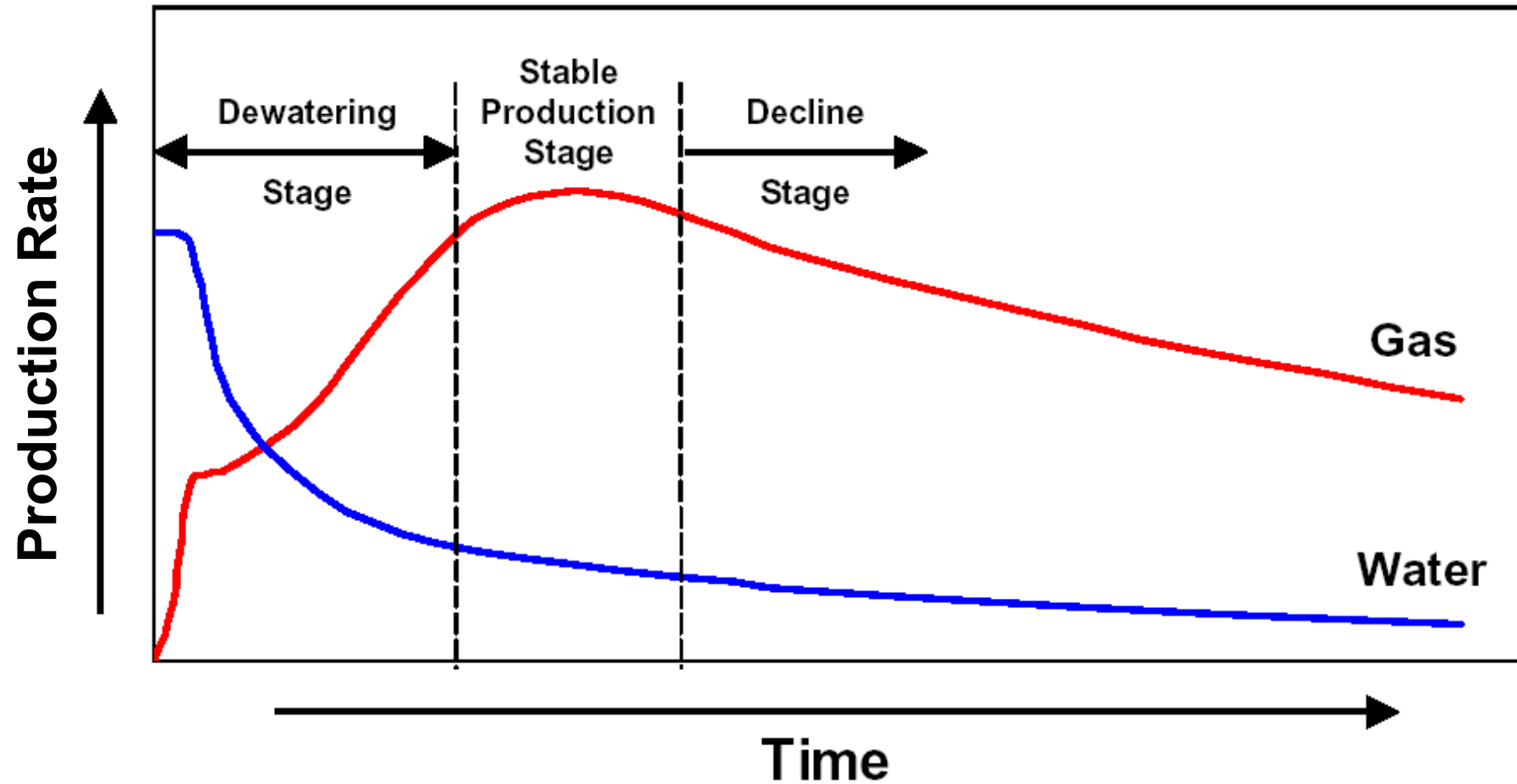
Coalbed Methane Producibility Model



Finding the 'Sweet Spots': basin assessment workflow

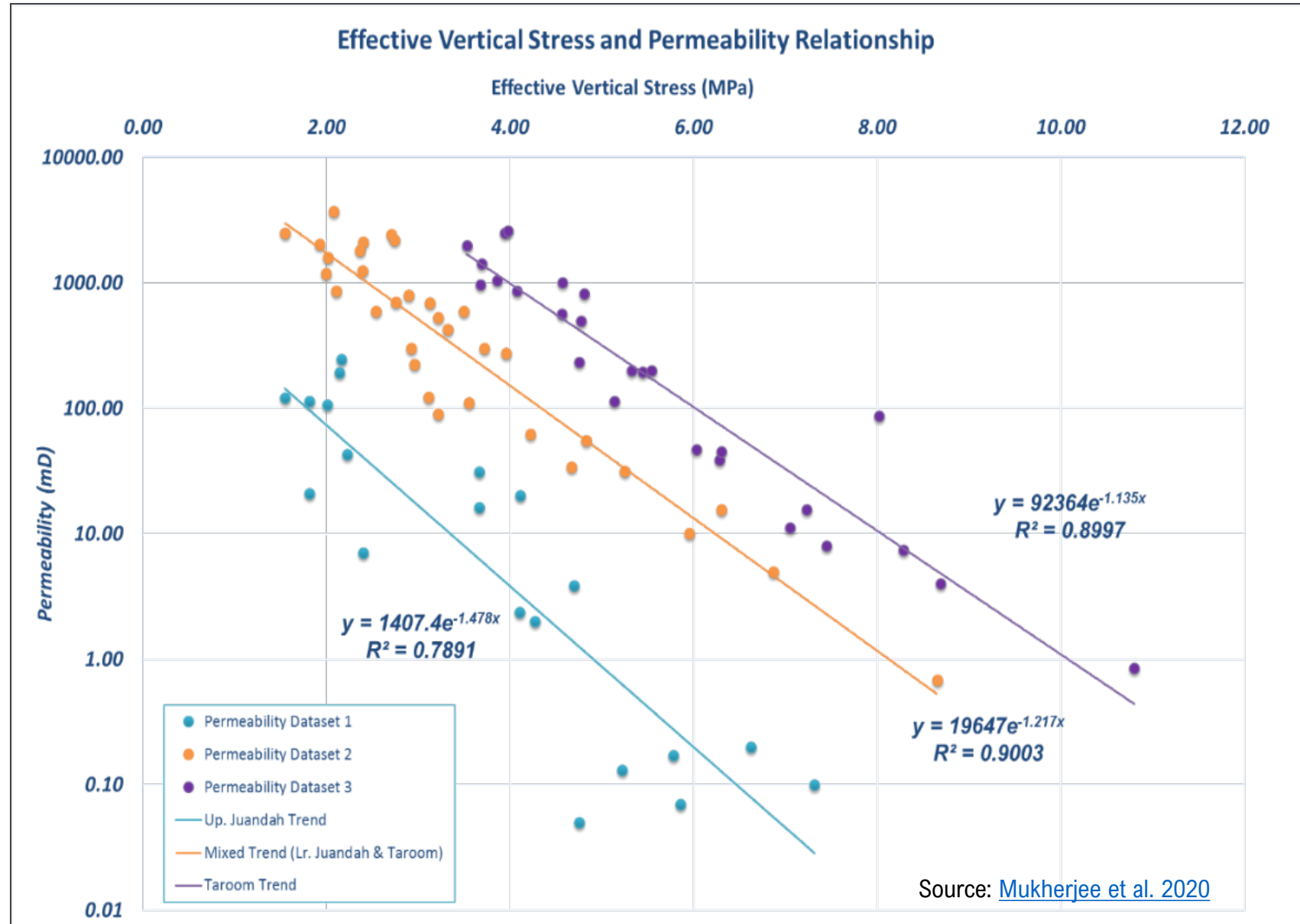


Schematic illustration of typical Coal Bed Methane well production lifecycle



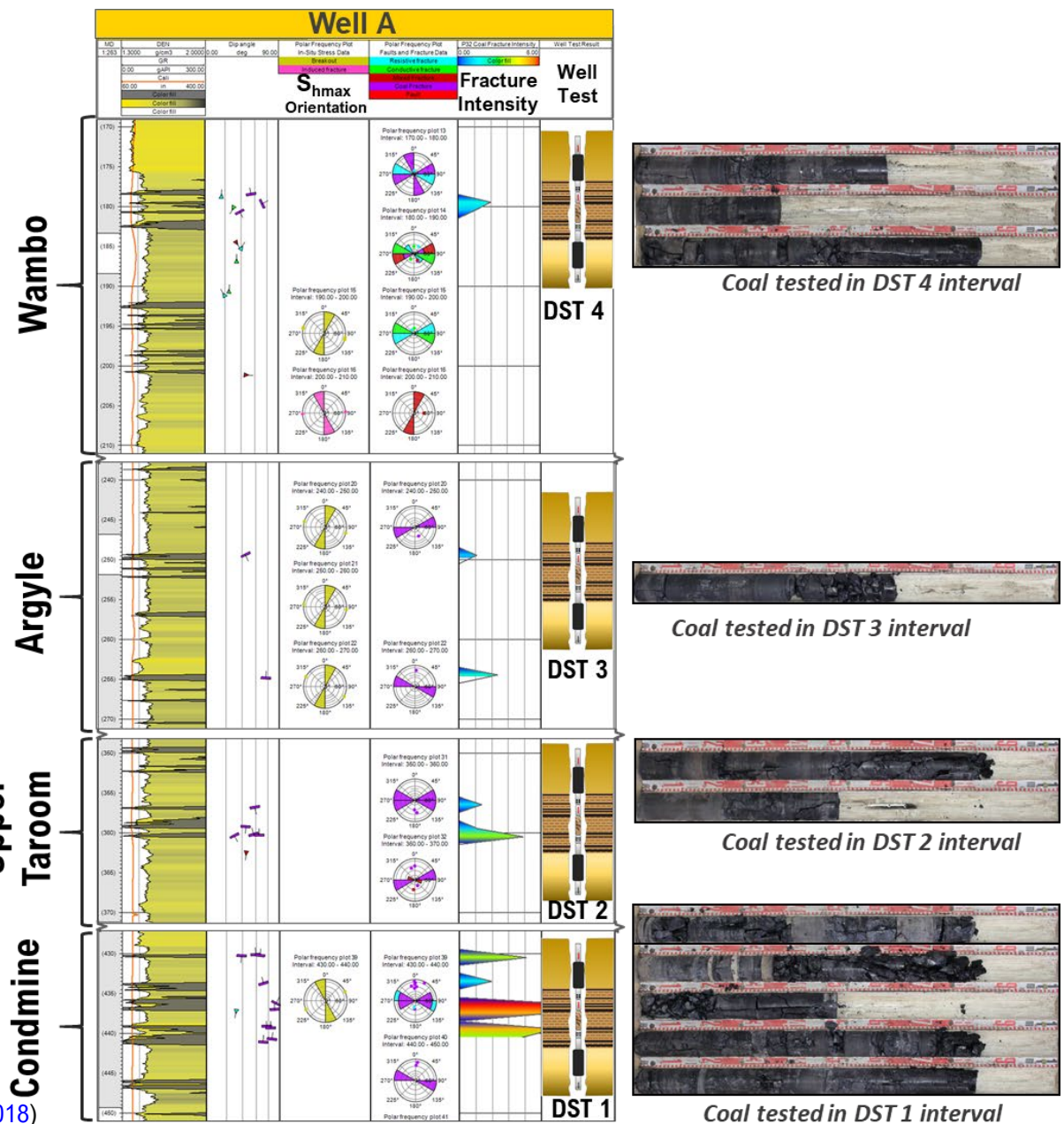
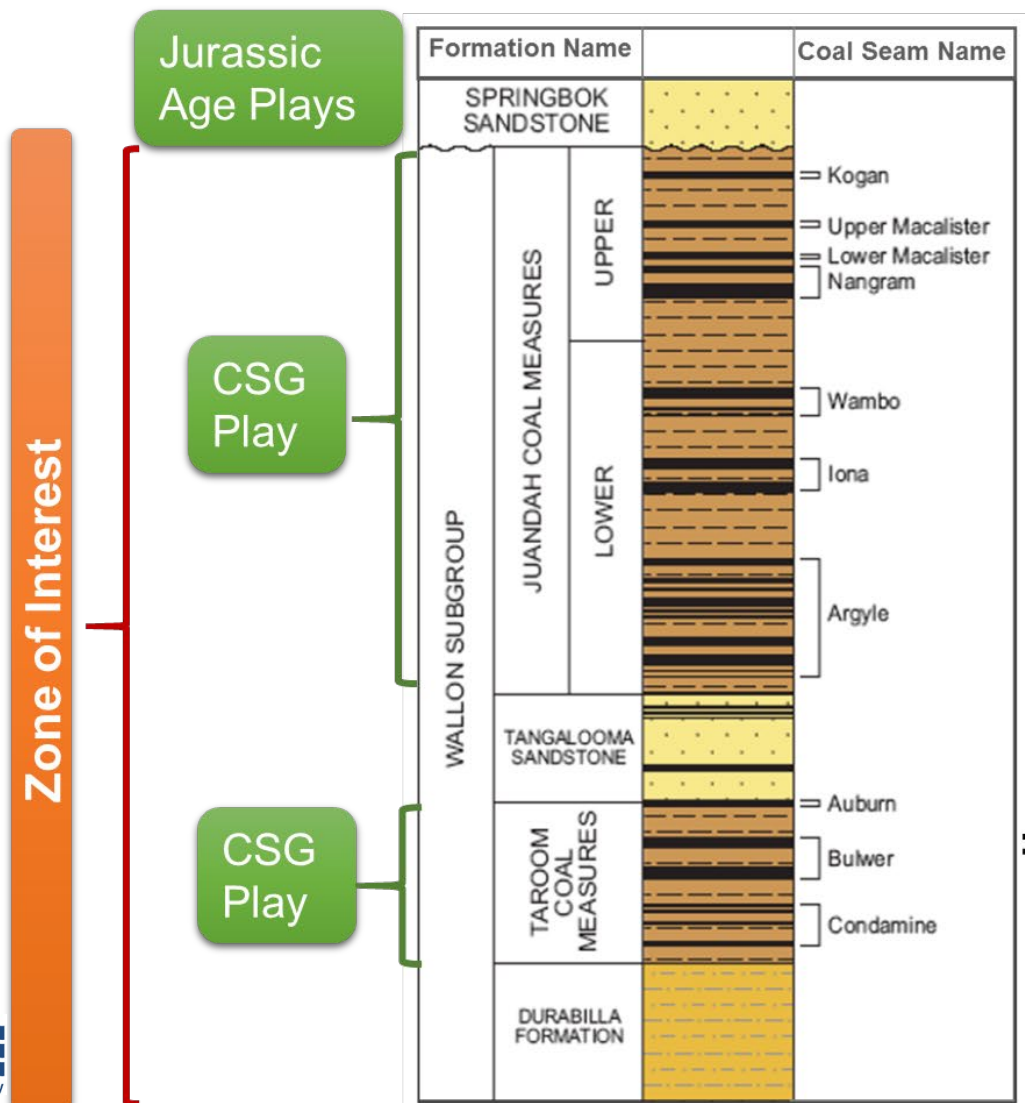
Figures from Publications

Permeability relationship with effective vertical stress within Walloon Coal Measures, Surat Basin, Australia.



Well section showing in-situ stress and fracture character relationship with permeability, Surat Basin, Australia

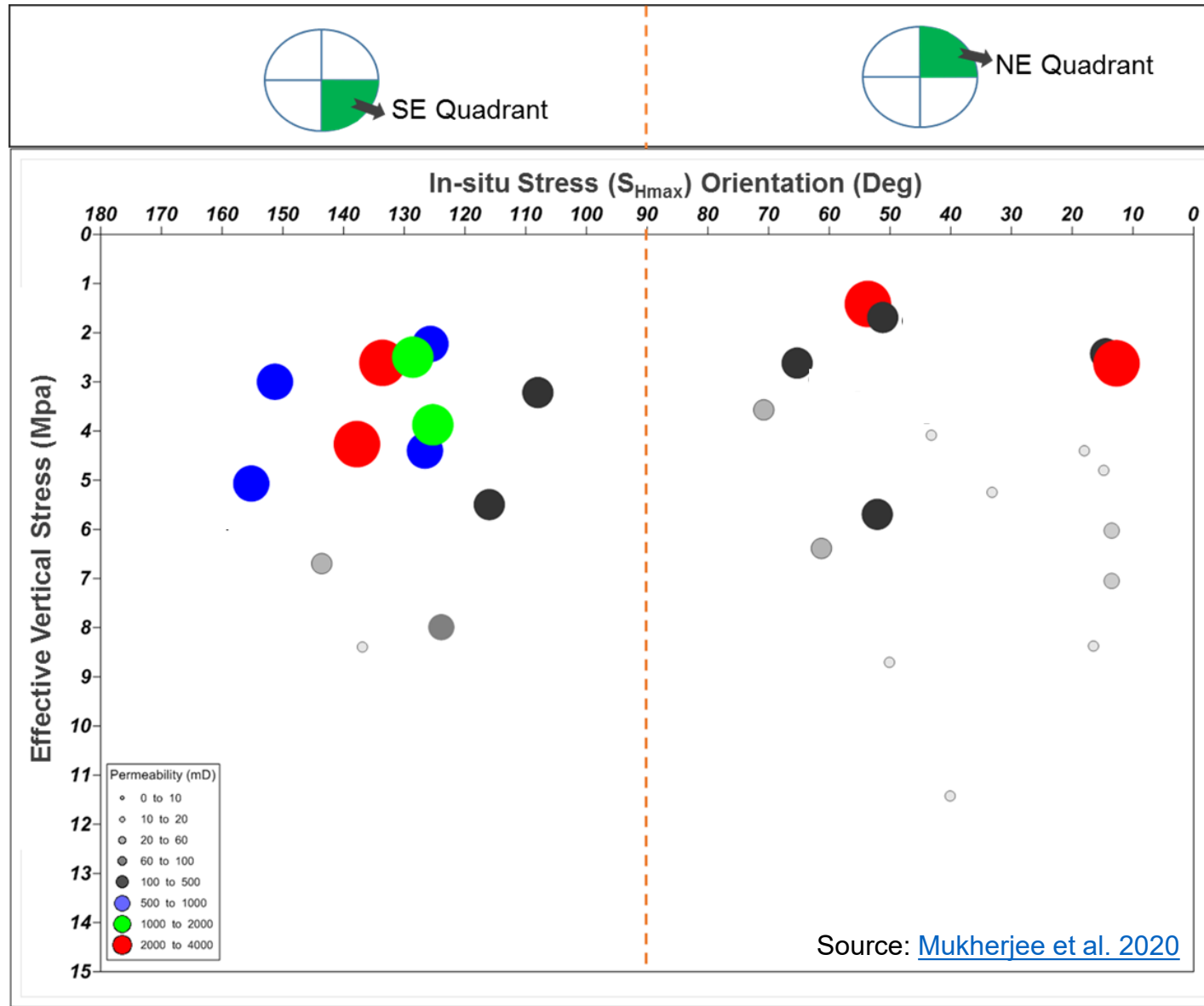
Walloon Coal Measures Stratigraphy



modified after Scott et al. (2007); Sliwa and Esterle (2008); Hamilton et al. (2014); Wainman et al. (2018)

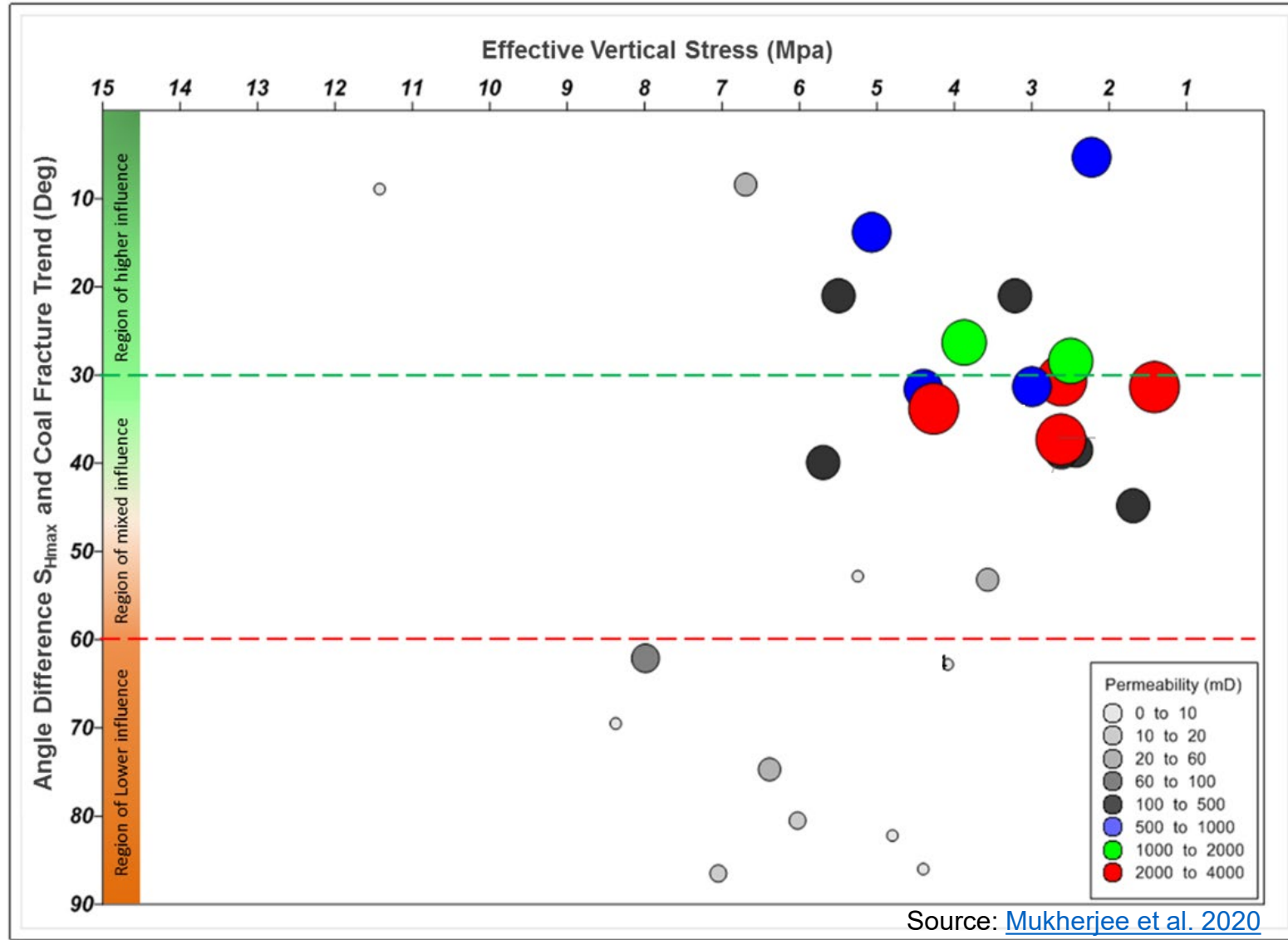


Relationship between *in-situ* stress and effective vertical stress with reservoir permeability, eastern Surat Basin, Australia



Source: [Mukherjee et al. 2020](#)

Permeability relationship with effective vertical stress and the relative angle between maximum horizontal stress (S_{Hmax}) orientation, and coal fracture in the Surat Basin, Australia.



Source: [Mukherjee et al. 2020](#)