What are the Criteria for Facies / Rock Types in Subsurface Modeling?

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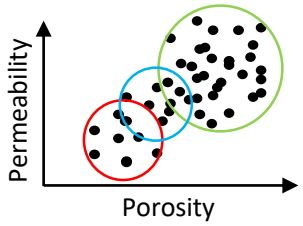
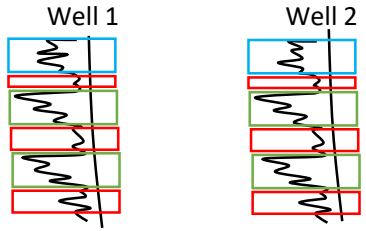
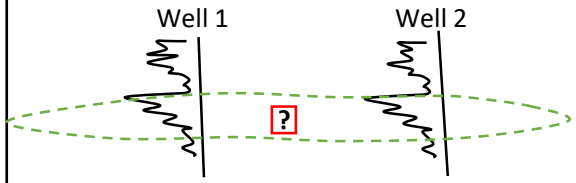
Comments:

1. Facies / Rock type is an important decision for subsurface modeling. It should remain a collaborative decision integrating expertise from the project team (Geologists, Reservoir Modelers, Reservoir Engineers, Petro- and Geophysicists).
2. Facies / Rock types must improve subsurface prediction away from the data or they do not add value.
3. Number of facies is a balancing act between accuracy of geological concepts and statistical inference, and modeling effort.

Criteria	Considerations	Example
Separation of Rock Properties	Facies must divide the properties of interest that impact subsurface environmental and economic performance (e.g. grade, porosity and permeability).	
Identifiable in Data	Facies must be identifiable with the most common data available. e.g. facies identifiable only in cores are not useful if most wells have only logs.	
Map-able Away from Data	Facies must be easier to predict away from data than the rock properties of interest directly, facies improves prediction.	
Sufficient Sampling	There must be enough data to allow for reliable inference of reliable statistics for rock properties for each facies.