

Reservoir Sequence Analysis: A New Technology for the 90's and its Application to Oil and Gas Fields

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Reservoir Sequence Analysis when applied to existing fields can increase the production, life of the field, and extend the field with a minimum of cost. In this technology we: Identify reservoir sands in a standard-of-reference well, to establish a seismic sequence stratigraphic well-tie for the entire field; age date the Maximum Flooding Surfaces and Sequence Boundaries above and below reservoir sands on a well-log and seismic profile and/or workstation using High Resolution Biostratigraphic Analysis, species abundance and diversity histograms and their patterns, and paleoenvironments/paleobathymetric changes; identify the systems tracts and their corresponding reservoir sands in between age dated Maximum Flooding Surfaces; interpret the reservoir sands as to type, i.e. IVF, point bar, coastal belt, forced regression, falling stage, bottom-set (shingled) turbidites, slope fan channel, channel overbank, basin floor fans; identify and correlate the same individual sands in different wells, and note new sands in a well and sands that shale-out in a well. Correlate the Maximum Flooding Surfaces above and below the reservoir section in additional wells to see which part of the reservoir section and sands have been penetrated; identify systems tracts in additional wells and construct isopach, sand percent maps of individual systems tract interval in each well; and correlate sand packages, with a high degree of confidence, from upthrown to downthrown fault blocks, around salt domes, and updip with downdip.