**Practical Aspects of Seismic and Well Log Sequence Stratigraphic Analysis**

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Sequence stratigraphy is an integrated methodology for analysis of the stratigraphic record. Integration of data sets of differing scales observed at varying vertical exaggerations can result in interpretation challenges. Five examples are discussed:

1. Conceptual Model: The often published 'slug diagram' of sequence stratigraphy is a computer construct using uniform rates of sediment supply and subsidence to fill a two dimensional area designed to show sediment accumulation within a submarine canyon. The consequent diagram shows the stacking of thick systems tracts with unique depositional geometry. In the interpretation of seismic record profiles, canyon fills often have the conceptual geometry but transgressive and highstand systems tracts more typically are expressed by parallel continuous reflection packages resulting from lateral dispersal of sediments by wave action. Interpretation of specific systems tracts within these parallel reflection packages requires well data.
2. Primary Interpretation Surface: The seismic sequence boundary is identified by regional onlap surfaces. In tectonically dynamic areas, especially salt basins or area of mobile shale, local development of lapout patterns can lead to incorrect correlation of regional surfaces. In such settings the maximum flooding surface and associated condensed section shale provide a consistent correlation datum, often correlative with the regional shales used as log correlation horizons.
3. Nomenclature versus Sedimentary Process: The seismic scale initial transgression is defined as the first significant onlap landward of the depositional inflection. This surface is recognized seismically well above the actual initial rise in relative sea level and onlap of the slope. Consequently, correlation of the seismic transgressive surface to well data places the base of the transgressive systems tract well above log and core scale transgressive facies patterns. This provides a communications challenge between the seismic scale and process sedimentologic scale of analysis.
4. Restoration Datum and Scale: Workstation interpretation facilitates redisplaying of data using different vertical-to-horizontal scales and multiple 'flattening' horizons. Interpretation of depositional setting and structural history can vary depending on the datum and scale used for displaying the data. Slope deposits flattened to a horizontal incorrectly display depositional settings, placing deepwater facies at a common horizon with shallow-water facies. Excessive vertical exaggeration can make hummocky-mounded facies appear faulted. The interpretation process must include use of data displays at each probable l:l configuration.
5. Biostratigraphic Calibration: Interpretation of depositional setting requires an integrated approach. Biofacies analysis can identify probable paleo-water depths. Biofacies analysis is especially useful in log motif analysis as similar log profiles can result from similar processes in markedly differing depositional settings. Biofacies analysis of 10 meter cutting samples may miss shallowing events represented by thin stratigraphic intervals. Careful attention to recognizing and reporting mixed biofacies assemblages and reworked taxa is critical to successful integrated analysis.