

Time & Event in Basin History, Construction of Backstrip Diagrams and their Interpretation.

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Abstract

Geohistory and backstrip analyses are used to reconstruct movements, elevations of stratigraphic units and surfaces through time. *Geohistory analyses* depict the geologic history of stratigraphic units, and display the elevation and thickness changes of several stratigraphic units on a single diagram. *Backstrip analyses* determine the causes of tectonic subsidence of a basin, i.e., subsidence in excess of that induced by sediment and water loads -- by matching observed tectonic subsidence curves with subsidence curves from geodynamic models. Consequently, we display the movements of the surface of the basement or of a stratigraphic surface deep within the stratigraphic column. We can also able to locate the reservoir rock which is suitable or not for gas or oil; and available amount of hydrocarbon (HC), as well as rate of sedimentation. If basin is relate to adequate temperature and pressure condition.

Traditionally, geohistory and backstrip analyses include different sets of corrections and display options, but their philosophical bases and calculation processes are essentially the same. Geohistory analyses, developed and illustrated by van Hinte (1978) following earlier work by Lemoine (1911), include corrections for paleowater depth variations and sediment compaction. Backstrip analyses (Steckler and Watts, 1978) include corrections for lithospheric compensation of sediment and water loads, in addition to paleowater depth variations and sediment compaction.

Keywords: Backstrip, Accumulation, Subsidence and Decompaction.