

**AAPG Annual Convention
Salt Lake City, Utah
May 11-14, 2003**

Mark G. Rowan, Rowan Consulting, Inc, Boulder, CO

Stratigraphy and Biostratigraphy In and Immediately Adjacent to Salt Bodies—an Overview

Field exposures and well data provide a wealth of information on the nature and ages of strata in and around diapirs and allochthonous salt. In this talk, I present an overview based on modern concepts of salt tectonics.

Diapirs sourced directly from autochthonous salt do not 'pluck' material from surrounding strata and thus do not contain inclusions representing the entire penetrated section. Instead, inclusions are restricted to strata that were interbedded with the evaporites and broken up during mobilization. In contrast, inclusions within allochthonous salt often have a large range of ages because condensed sections above individual salt bodies get incorporated at canopy sutures and dispersed during subsequent deformation.

Wells may penetrate old strata of variable ages above, below, and next to salt. Suprasalt condensed sections get thinned, faulted, and eroded as the salt spreads and the surface area increases. Some of this condensed material may be preserved on diapir flanks as 'shale sheath' and some may be deposited as slumps at the foot of salt-related bathymetric scarps. Slumps are locally preserved next to diapirs or overridden if the salt extrudes laterally, and are often highly complex, with overturned and repeated sections.

Diapir-flanking and subsalt strata may be constant-thickness and undeformed, or they may be rotated, thinned, and truncated during near-surface drape folding. In extreme cases, strata are completely overturned and cut by 90° unconformities. Thick intervals of repeated and overturned strata can also form when diapirs are squeezed during compression and the resulting welds serve as reverse faults.