

## SEISMIC STRATIGRAPHY OF THE UPPER PLIOCENE AND QUATERNARY DEPOSITS IN THE SOUTH CASPIAN BASIN

Nazim R. Abdullayev

Colorado School of Mines, currently BP Amoco Exploration Ltd.

More than 10,000 km of seismic data were used for seismic stratigraphic analysis and differentiation of major depositional environments of Upper Pliocene and Quaternary strata in the central deepwater and eastern parts of the South Caspian Basin. The study shows that the conventional sequence stratigraphy concept works well in the South Caspian Basin.

Clinoform complexes within Paleo-Amudarya shelf-margin are bounded by regionally seismically expressed sequence boundaries and flooding surfaces that can be traced to the deep basin. Sequence analysis and seismic facies interpretation showed that deposition of prograding clinoforms and deep-water turbidite systems were controlled by the relative lake-level change. Depositional interpretation of sediment infill indicates that in the South Caspian Basin, basal deposition is from turbidity currents and slumps generated from large shelf-edge deltas.

There are two distinct stratigraphic complexes interpreted from seismic data: lower, interpreted as homogeneous infill of mud-rich turbidites and deepwater lacustrine deposits (Upper Pliocene, i.e. Akchagyl and Apsheron), and upper, consisting of prograding clinoform packages and coeval deepwater fan systems and slumps (Quaternary). Source of central basin turbidite infill was primarily the eastern "paleo-Amudarya" shelf. Growing diapir folds structurally controlled deposition of large-scale fan systems in the central basin. Distribution of these fan systems is tied to location of the coeval thick shelf-margin complexes.

Key words: South Caspian Basin

Sequence

Seismic facies

Deepwater

Clinoform