

**AAPG International Conference
Barcelona, Spain
September 21-24, 2003**

Victor M. Alania¹, A. Chabukiani², V. Mikeladze², D. Girsishvili³ (1) Georgian Academy of Sciences, Tbilisi, Georgia (2) State Agency for Regulation of Oil and Gas Resources of Georgia, Tbilisi, Georgia (3) Saknavtobi, Tbilisi, Georgia

Late Cenozoic Structural Evolution of the Frontal Part of East Achara-Trialeti Thrust and Fold Belt, Georgia

We present of N-S balanced cross-sections based on field observation, well and seismic reflection data in order to better understand of structural evolution of the frontal part of east Achara-Trialeti thrust and fold belt. Section balancing shows that east Achara-Trialeti is thin-skinned thrust and fold belt. The structure of the east Achara-Trialeti thrust and fold belt is interpreted as due to the northward thrusting of basement wedge and includes fault-bend folds, fault-propagation folds, duplexes and triangle zone. Tectonic histories of thrust-front are evaluated on the growth strata present in overlying fault-related folds. The timing of deformation is post Sarmatian, probably Late Miocene-Pliocene. Along the frontal part of Achara-Trialeti thrust and fold belt Tertiary-Upper Cretaceous strata are deformed by fault-bend and fault-propagation folds. Seismic reflection data in the southern part of the study area near v. Norio reveal the presence of small passive-roof duplexes in "Maikopian" (Oligocene-Lower Miocene) rocks. The tops and bottoms of the duplexes are defined by back-thrust and sole thrust. In the northern part of Achara-Trialeti thrust front, above N-vergent Norio fault-bend fold (or intercutaneous wedge) are developed imbricate fan. The S-vergent imbricate fan is characterized by fault-propagation folding. Forward modeling and geometries of the fault-band and fault-propagation folds is defined by the geometry at depth of each cross-section and the depth-to-detachment.