

SEQUENCE SIGNIFICANCE OF SILICIFIED AND MINERALIZED CARBONATE-HOSTED HORIZONS

1CAMANA G., 1BRIGO L., 2RODEGHIERO F. 1Dipartimento Scienze della Terra, Università di Milano, Italy 2Dipartimento Georisorse e Territorio, Politecnico di Torino, Italy

Numerous silicified fluorite-, barite-, sulfide-bearing horizons (thickness up to some tens of meters and length up to 100 km) have been recognized in different geotectonic settings (Alps, Sardinia, Calabria, Pyrenees, Spain, Brazil and China) and different age (from Proterozoic to Mesozoic). These horizons always overlay and cap paleokarstic unconformities evolved in the uppermost part of carbonate platform sequences during relative sea-level falls, and always are overlaid by transgressive silicoclastic sediments. They may show unconformity-concordant tabular or discordant columnar shapes. The major characteristic of these horizons is the almost total silicification of polymictic conglomerate-breccias constituted by dominantly carbonate fragments and rare siliciclastic rocks. In some siliciclastic covers, silicified and mineralized fragments have been found, constraining the time of formation between the end of the paleokarstic surface, and the beginning of the siliciclastic sedimentation. The stratigraphical gap between carbonates and siliciclastic sequences vary from some millions to tens or hundreds millions of years. No lithofacies control of the carbonates underlying or of the siliciclastic sediments has been recognised in the genesis of these horizons; for these ore-bearing horizons, has been recently proposed the name of Siliceous Crust-Type. On the basis of these persistent geological and stratigraphical features, these horizons may be assumed, within a sequence stratigraphy point of view, as unconformity-bounded units separating carbonate from siliciclastic sequences. For example, in the Central Southern Alps (northern Italy), three different unconformity-bounded units separating third-order Vail-Type sequences have been recognised during the Carnian and the Norian.