followed by a near isothermal retrogression at 590–640 °C/ /6–8 kbar. Based on different compositions of core garnet (garnet I) in metapelites in the Wölzer Tauern, two metamorphic events of amphibolite facies conditions can be distinguished. The older (Variscan?), medium-pressure metamorphism in the upper Rappold Complex and a Permian (Schuster and Thöni 1996), low-pressure metamorphism in the underlain Wölzer Complex are assumed.

Because of strong retrogression, evidences of Alpine eclogite facies metamorphism are locally preserved in some metabasites in northern parts of the Koralpe and Saualpe Complex. The peak high-pressure minerals are garnet, omphacite, rutile and phengite. Metamorphic conditions estimated using garnet and omphacite indicate ca 690 °C and minimum pressure of 13 kbar, based on jadeite content (Jd = 27 mol%). Mineral assemblages in metapelites yielded temperature of 700 ° at 15 kbar. Retrograde history in metabasites is documented by several stages of mineral growing and extensive retrogression which led to subsequent low-pressure eclogite – amphibolite/greenschist facies assemblages after the high-pressure assemblage.

Both the Wölzer and Rappold Complexes experienced Alpine metamorphism of similar P-T conditions (550–650 °C at 10–11 kbar). Based on mineral assemblages in the Permian Rannach Formation, a temperature of 500–540 °C at 8 kbar was estimated for Alpine metamorphism in the northern part of the Austroalpine basement units, east of Tauern Windows.

The presented data from the Eastern Alps indicate different metamorphic history in terms of timing, degree and nature of metamorphic evolution. Three metamorphic events with different P-T conditions are distinguished in the Austroalpine basement units: Early Variscan eclogite facies, Variscan medium-pressure amphibolite facies and late Variscan low-pressure amphibolite facies metamorphism. This metamorphic evolution suggests subduction of continental and oceanic elements during Silurian-Devonian and continent-continent collision between Gondwana-derived continental elements and northern portion of Central European Variscan Belt. P-T conditions of Alpine metamorphism estimated for Austroalpine units indicate a subduction type geotherm of Ca 12–14 °C/km. The Koralpe and Saualpe Complex represent the deeper portions of subducted slab.

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West Bohemian Seismic Swarm 2000: First results

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The swarm of August-November 2000 represented the most pronounced swarm-like seismic activity since the $M_L = 4.6$ swarm 1985/86 in the area of West Bohemia / Vogtland. Weaker in the maximum magnitude of the strongest quakes, but longer in the total duration of the activity, the swarm 2000 with more than 10,000 events will provide a lot of observational data for further studies.

The swarm was typical of the occurrence of a number of swarm phases – micro swarms starting with a rapid and sudden increase in seismic event magnitude and frequency of event occurrence.

The first results of relative hypocentre locations of hundreds of stronger events obtained by the master-event technique show the swarm hypocentres occupied almost vertical, N-S oriented, planar area of a radius of about 3 km, while the hypocentres migrated between particular swarm phases. The temporal dependence of the magnitude-frequency distribution of the events and the classification of the swarm waveforms following the P-wave onset polarities and S-wave amplitude ratios between pairs of the WEBNET stations revealed the common and different features of particular swarm phases. This, together with estimating the fault plane solutions for a set of stronger events enabled us to get a closer view of the fault area of the 2000 swarm and to better understand the role of swarm phases in the development of the faulting process.

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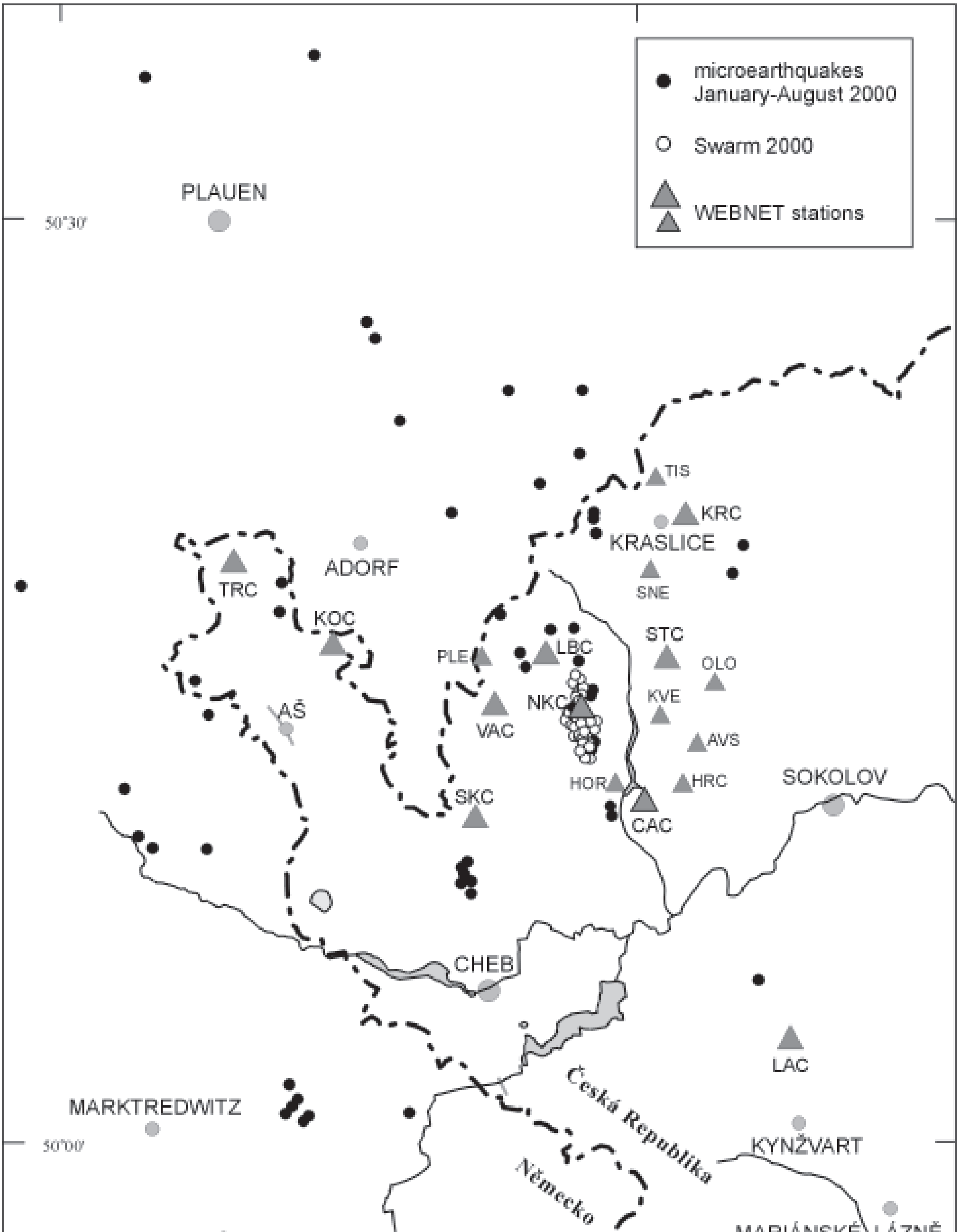

Fig. 1. Map of epicentres of microearthquakes occured in West Bohemia/Vogtland/NE Bavaria region during 2000.

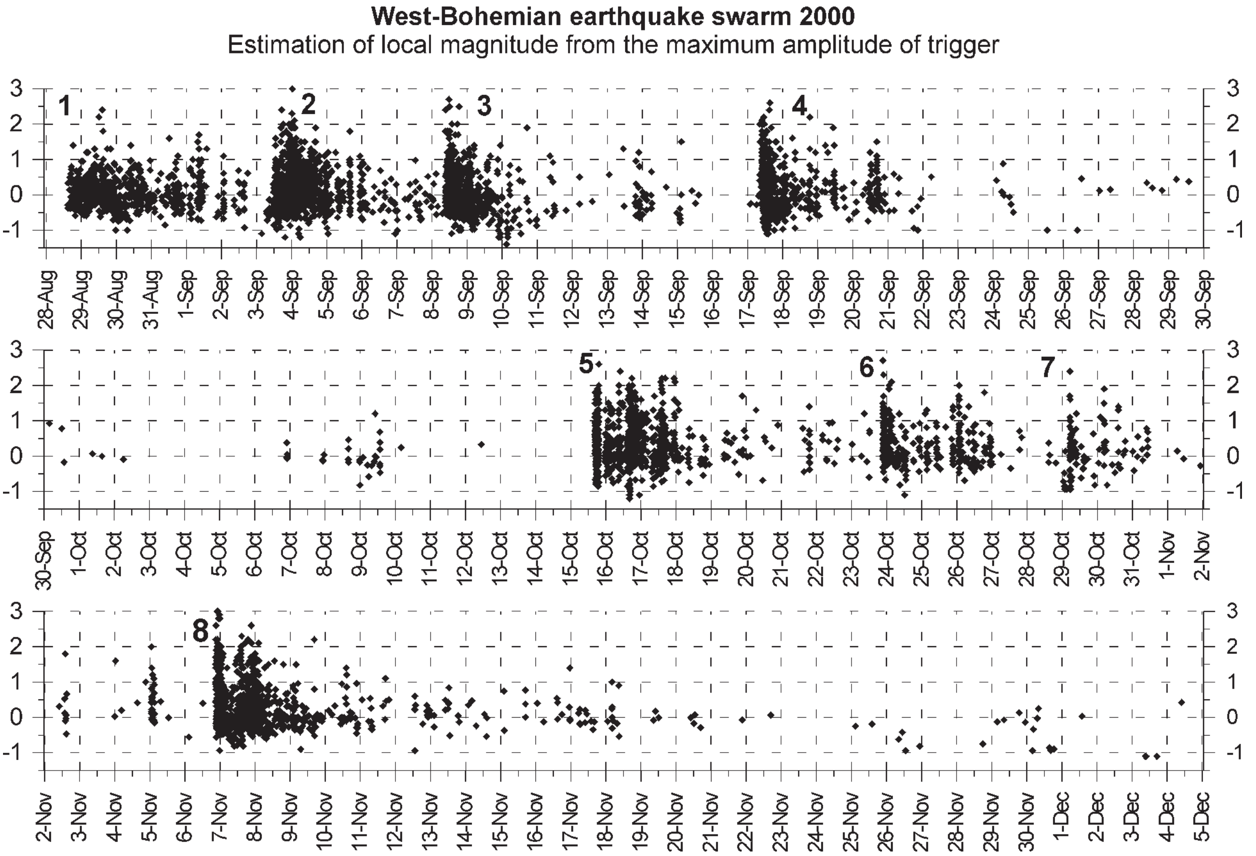

Fig. 2. Time sequence of 2000 swarm.

Sedimentology of Redeposited Conglomerates: Sections at large Quarries of the Drahany Culm Basin

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Sections in the Luleč and Olšany quarries were studied during the work on the project: "Exhumation of the Variscan lower crust – constraints from the Viséan siliciclastics (Eastern Bohemian Massif)". This study has been materialised as a part of basin analysis supporting numerous special studies on comparison of pebble material, greywacke matrix and supposed crystalline source rocks (various methods of comparative petrology and mineralogy, dating, special geochemistry, etc.)

The quarries in operation are situated close to the villages of Luleč and Olšany in brachystructures of identical names. From the viewpoint of local lithostratigraphy both quarries belong to the upper member of the Myslejovice Formation, i.e., to the Luleč Conglomerates.

The conglomerates are biostratigraphically dated on the basis of goniatite fauna identified in from the intercalations of mudstones. Goniatite fauna of all Upper Viséan zones (Go α, β and χ) has been determined in the Myslejovice Formation.

The conglomerate at the Luleč quarry is composed of 78% metamorphic rocks (gneisses, granulites, mica-schists and quartzites), 19.5% magmatic rocks (granites, effusive rocks, durbachites) and 2.5% sediments (greywackes, shales). The above-mentioned analysis differs from average composition of the Luleč Member in the entire Drahany Culm by higher amount of magmatites and lesser share of sediments (Štelcl 1960).

The study was focused on definition of the depositional environment of conglomerates.

There are three basic lithotypes in the quarries: conglomerate, sandstone (greywacke) and mudstone.

Conglomerates are cropping out in the lower part of the section at Luleč quarry. They are clast supported, polymict, coarse, with well-rounded pebbles, cobbles and boulders, poorly sorted in coarse grained sandstone matrix. The largest clasts are over 1 m in diameter. The lower contacts of conglomerate bodies are erosional.