

BREITER (2005) im österreichischen Plöckenstein-Hochficht-Gebiet entdeckt und auskartiert. Nicht weit davon entfernt wurden nun von uns im Raum Zwieselberg-Hochficht erstmals auch Gesteine gefunden, die den bayerischen Paliten sehr ähnlich sind. Die Ähnlichkeit bezieht sich auf ihre migmatitische Struktur mit basischen Gesteinsanteilen und kalifeldspatreichen Lagen und Schlieren. Wie die Palite in Bayern, sind die betreffenden Gesteine außerordentlich reich an Magnetit und somit stark magnetisch. Möglicherweise bilden die Palit-ähnlichen Gesteine bei Schwarzenberg die dextral versetzte Fortsetzung des Palitzuges bei Freyung, wodurch auch der postulierte genetische Zusammenhang mit der böhmischen Durbachitlinie unterstrichen wird.

Interessanterweise zeigen auch die Paragneise des Zwieselberg-Hochficht-Gebietes an manchen Stellen eine starke Magnetitführung, die vermutlich durch kontaktmetamorphe Prozesse zustande gekommen ist.

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Lake Neusiedl discharge some liters per second from the western karst reservoir, whereas the amount of about 24 l/second is pumped out for drinking water supply. Long termed tritium and O-18-analyses indicate a mean residence time of groundwater in this big reservoir of about 100 years. The karstified system of type 2, north of Winden, consists of a large area of thick Leitha limestone covering the Leithagebirge, and therefore the main recharge area is composed of Leitha limestone itself. The well known springs near Winden discharge in total about 50 l/second from this karstified system. The upper springs discharge younger water from this karst aquifer with a mean residence time of about 10 years. The deeper springs discharge the main karst reservoir with a mean residence time of the groundwater of about 60 years. Surprisingly, some small springs south of the Hackelsberg, a small hill situated south of Winden, do not discharge the neighbouring karst system of Winden. The Hackelsberg spring water reveals a model age of more than 200 years and therefore we conclude that it discharges the Purbach system. We assume a local groundwater flow from the Purbach system along a faulted carbonate aquifer in northeastern direction to the Hackelsberg.

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Das Rohrbacher Konglomerat (Rohrbach-Formation, Pliozän?) im südlichen Wiener Becken

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Different types of karstified aquifer systems along the Leithagebirge (Northern Burgenland, Austria)

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The Leithagebirge geologically represents the Central Alpine zone east of Austria. A northeast trending horst consists of a crystalline basement, and remnants of Permomesozoic formations. It is covered by Miocene sediments, predominantly by the Leithakalk formation of Badenian to Sarmatian age. Karstified Leithakalk is exposed and overlain by fine clastic beds of Pannonian age. The investigation of hydrogen and oxygen isotope ratios allows for a differentiation of two major systems of karstified aquifers along the Leithagebirge, one in the southwest around Purbach, and the other in the northeast, around Winden (KOPECNY 2006, HEISCHMANN 2006). The karstified system of type 1, north of Purbach, is characterised by a large catchment area composed of crystalline rocks. Small brooks periodically charge the Leithakalk aquifer which builds up a small rim along the southern slope of the Leithagebirge. Evapotranspiration along the flow on top of the Leithagebirge is high and only precipitation during the cool periods charges the karstified reservoir below Purbach, which is confined by Pannonian sediments. Only few springs along the shoreline of

Im südlichen Wiener Becken kennt man neogene Konglomerate aus Aufschlüssen und Bohrungen, die ein obermiozänes bis pliozänes Alter aufweisen. Das Rohrbacher Konglomerat (Rohrbach-Formation) am südwestlichen Rand des Wiener Beckens, zwischen Neunkirchen und Wiener Neustadt, tritt als Konglomeratplatte auf, die von SW gegen NE in das Wiener Becken abtaucht. Bei Wiener Neustadt konnte das Konglomerat in 40m Tiefe mit Bohrungen nachgewiesen werden. Darüber folgen pleistozäne Sedimente, die Schotter und Kiese der Mitterndorfer Senke.

Einen der besten Aufschlüsse des Rohrbacher Konglomerates, und damit ein mögliches Typprofil, stellt der Steinbruch in Rohrbach am Steinfelde/Ternitz (Fa. Bamberger) dar. Die Rohrbach-Formation, wie im Steinbruch aufgeschlossen, besteht hauptsächlich aus fluvial geprägten, verfestigten Grobsedimenten. Die Komponenten des gelblich-grauen Konglomerates erreichen eine Größe von bis zu sieben cm. An Komponenten treten unter anderem verschiedene Kalke, graue Dolomite, Sandsteine, Glimmerschiefer, Gneise und Semmeringquarzite auf, welche in eine Matrix von gelblich verwitterndem Grob- bis Feinsandstein eingebettet sind. Erosive, fluviale Rinnen von mehreren Metern Breite und auch kleinere erosive Rillen (chutes) treten auf. Weiters findet man Sandsteinlagen, teilweise gradiert, und geringmächtigere siltig-tonige Lagen.

Die Rohrbach-Formation wird als von den Nördlichen Kalkalpen, der Grauwackenzone und unterostalpinen Kristallinanteilen beliefertes, braided river-System interpretiert. Konglomerate und Sandsteine verfüllen die Rinnen. Selten sind Schrägschichtung (Point bar-Ablagerungen?) und Load Casts zu erkennen. In ruhi-

gerem Milieu lagerten sich graue, sowie rötlich-braune Silte ab. Klüfte sind mit jüngerem, siltigen, wahrscheinlich pleistozänem Material verfüllt. Synsedimentäre Deformation, möglicherweise bedingt durch Paläo-Erdbeben, kann beobachtet werden. Im obersten Bereich des Steinbruches lagerten sich Konglomeratkomponenten in toniger Matrix ab, welche auf Murenabgänge (Debris Flows) zurückzuführen sein könnten.

New Triassic and Jurassic biostratigraphic constraints for precision of the age of Darnó ophiolitic melange (NE Hungary)

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The Darnó Complex in the Darnó Hill type area in north Hungary represents an ophiolite mélangé complex similar to those in the Dinaridic realm. The ophiolite suite is closely associated with radiolarites and ophiolitic mélanges containing blocks of up to kilometer-size. The components consist of radiolarites, pelagic Bódvalenke and Hallstatt-type limestones as well as remnants of a Triassic-Jurassic ocean floor. The mélangé contains a turbiditic, shale-radiolarite-matrix, dated roughly as Middle Jurassic by former preliminary investigations.

In the Mély-völgy quarry near Recsk we isolated from the radiolaritic matrix of the ophiolite blocks a well preserved Callovian-Oxfordian radiolarian fauna: *Archaeodictyomitra minoensis*, *Archaeodictyomitra* spp., *Eucyrtidiellum semifactum*, *Eucyrtidiellum unumaense*, *Hsuum maxwelli*, *Protunuma ochiensis*, *Saitoum trichylum*, *Stichocapsa japonica*, *Tricolocapsa conexa*, *Tricolocapsa* sp., *Triversus hungaricus*, *Tetracapsa* sp., *Unuma gordus*, *Williriedellum dierschei*, *Zhamoidellum ovum*. On the other hand, from a red radiolarite horizon interfingering with a m-sized green basalt block just above the sampling points of this Jurassic fauna, we found a poorly preserved, but unambiguously latest Anisian to Late Ladinian radiolarian fauna: *?Entactinosphaera* sp. cf. *Entactinosphaera triassica*, *Pseudostylosphaera longispinosa*, *Spongopallum* sp., *Parasepsagon* sp. The age range and composition of the Darnó mélangé seems to be similar to the ophiolitic mélanges in the Dinaridic Ophiolite Belt and in Medvenica and Kalnik Mts. on the NW in Croatia. Due to the typical features the Darnó ophiolitic mélangé is interpreted to be formed originally as a primary synorogenic sediment formed simultaneously during thrusting of ophiolite and sediment-cover nappes representing ocean floor and underplated fragments of the a continental margin, overprinted by contemporaneous and younger tectonics forming a typical accretionary complex. In the Late Jurassic the Darnó mélangé belonged to the northernmost part of the coherent, north-south trending Neotethyan ophiolite belt (e.g. accretionary complex zone) striking from the Hellenides (Maliak Zone) northward to the Albanides (Mirdita Zone) and the Dinaridic Ophiolite Belt. From this setting it became displaced due to sizeable ?Cretaceous to Tertiary strike-slip movements along the Mid-Hungarian Zone.

Facies and cyclicity of the Lower Permian Zweikofel Formation (Upper *Pseudoschwagerina* Limestone), Carnic Alps (Austria).

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The mixed siliciclastic-carbonate Zweikofel Formation (Sakmarian to Artinskian) of the Carnic Alps (Austria) is interpreted as a stack of transgressive and highstand systems tracts, respectively, of glacio-eustatic sequences. The Zweikofel Fm is 94-106 m in thickness, and consists of a cyclic succession of thin- to thick bedded fossiliferous limestones and four intercalated intervals 1-4 m thick of siliciclastics. The entire Zweikofel Fm comprises approximately 4.5 Ma of time, which indicates a low average accumulation rate of about 22 m/Ma. The siliciclastic intervals consist of siltstone, sandstone and fine-grained, quartz-rich conglomerate with grain size up to about 5 cm. Fossils indicate deposition in a shallow-marine nearshore environment. The inventory of carbonate facies is characterized by oolitic and macro-oncolitic limestones, respectively. Other common facies include bioclastic grainstones/packstones, bioclastic wackestones/packstones, and algal floatstone. A diversified faunal and algal assemblage indicates deposition in a shallow neritic, normal-saline, low- to high-energy environment. Within the intervals of limestones, a paracyclic vertical arrangement of facies is identified. The lower part of the paracycles consists of oolitic and bioclastic grainstones to packstones. Up-section, within a paracycle, these grade into thin- and wavy bedded, dark gray oncolitic and algal limestone. At Garnitzenbach, parasequences are 1-7 m in thickness and characterize the lower and middle part of the Zweikofel Fm. The upper part consists of thin- and wavy-bedded fossiliferous limestones with abundant algae and, locally, crinoids and gastropods. In the Zweikofel section, paracycles up to 13 m in thickness are characterized by oolitic limestones in their upper part. Low average sediment accumulation rate of the Zweikofel Formation combined with persistent deposition of shallow neritic facies suggests that the base of the siliciclastic intervals is a sequence boundary, and that the siliciclastics represent part of the transgressive systems tract. Above, the limestones would pertain to the transgressive and/or to the highstand systems tract. In both sections, thin-bedded fossiliferous limestone of the uppermost Zweikofel Formation is sharply overlain by unbedded *Tubiphytes-Archaeolithoporella* mound facies of the overlying Troglkofel Group.

New results on the groundwater body of the Parndorfer Platte (Northern Burgenland, Austria)

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According to the requirements of the Water Framework Directive (WFD, Article 4) and the Austrian Water Act (WRG, § 30c), a good status of groundwater should be achieved by the year 2015. For this reason it is necessary to know the time elapsed between measures set in the recharge area and improvements at the observation wells. In many areas dominated by agricultural use the problem of high nitrate concentrations in the groundwater and