

Origin, facies: SPÖTL (1989) recognized three facies: (1) siliciclastic fan deltas and intercalated horizons of nodular and massive anhydrite, (2) small-scale shoaling upward anhydrite cycles which were probably overlain by primary sedimentary halite, and (3) intensively deformed halite. These sediments were deposited in a continental rift setting of the northwestern Tethys. Halite precipitated in a central salt pan, shoaling upward gypsum cycles developed in marginal sabkha-like flats surrounded by alluvial fans and mudflats (SPÖTL, 1988a, b, 1989).

Chronostratigraphic age: Late Permian according to S-isotopes (PAK & SCHAUBERGER, 1981; SPÖTL, 1987, 1988a, b) and sporomorphs (KLAUS, 1953, 1955, 1963). Early Triassic ("Scythian") age not proved.

Biostratigraphy: -

Thickness: 500–?1,000 m (SPÖTL, 1989).

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Prächichl Formation, Mitterberg Formation (not shown in the ASC 2004).

Overlying unit(s): Werfen Formation.

Lateral unit(s): Interfingers laterally with the Prächichl Formation and Mitterberg Formation (SPÖTL, 1988a, b, 1989).

Geographic distribution: Northern Calcareous Alps (Hallstatt, Bad Ischl, Hallein, Berchtesgaden, Halltal north of Hall in Tyrol).

Remarks: -

Complementary references: -

Jungpaläozoikum von Zöbing / Lower Paleozoic of Zöbing

The Bohemian Massif achieved its paleogeographic position at the southern edge of the European craton during Variscan orogenic phases. During post-Variscan extensional tectonic processes sediments were deposited in NE–SW orientated basins. Most of these molasse-type sediments are known from subsurface occurrences; the only known 'post-Variscan transgressional deposit' outside the Alps in Austria is located at Heiligenstein – Geißberg area of the Waldviertel in Lower Austria (VASICEK & STEININGER, 1996, 1999).

Zöbing-Formation / Zöbing Formation

HANS P. SCHÖNLAUB

Validity: Valid; the term was introduced by STEININGER & ROETZEL (2008: p. 50).

Type area: ÖK50-UTM, map sheet 4318 Langenlois (ÖK50-BMN, map sheet 38 Krems). Graben infill between the villages Zöbing am Kamp and Kammern including the mountain Heiligenstein and extending over some 6 km to Diendorf am Walde, Lower Austria.

Type section: To date no type section has been established.

Reference section(s): Several sections east of the river Kamp (see VASICEK, 1983, 1991; VASICEK & STEININGER, 1996).

Derivation of name: After the village Zöbing am Kamp in Lower Austria.

Synonyms: Jungpaläozoikum von Zöbing (VASICEK, 1991; VASICEK & STEININGER, 1999; STEININGER & ROETZEL, 2008).

Lithology: According to VASICEK (1977, 1991) the clastic sequence is divided into three members. The lowermost 300 m thick member comprises darkgrey laminated silt- and sandstones with coal-seams and limestone lenses and contains a rich flora known already in the 19th century and other fossils.

The middle member attains a thickness of some 500 m and consists of arkoses interbedded with thick conglomerate beds. The main components are granulites with pebble sizes of up to 1 meter, other clasts consist of quartz, marble, Gföhl gneiss and different volcanics.

The uppermost 300 m thick member consists of interbedded reddish siltstones and arkoses and ends with reddish, greyish and greenish mudstones with lenticular intercalations of sandstones and arkoses. Neither in the middle, nor in the upper member any fossils have been yet found and thus the exact age of these members is not known.

Fossils: Rich plant flora, gastropods, fish teeth and ostracods.

Origin, facies: The fossils reflect a lacustrine environment.

Chronostratigraphic age: Upper Carboniferous ("Stephanian") to Lower and Upper (?) Permian.

Biostratigraphy: Among others, rich occurrences of *Al-ethopteris zeilleri*, *Callipteris conferta*, *Ernestiodendron (Walchia) filiciformis* and *Reticulopteris germari* in the lower member.

Thickness: > 1,000 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Crystalline Complex (granulites) of Bohemian Massif.

Overlying unit(s): No younger sediments are known.

Lateral unit(s): -

Geographic distribution: Extending some 6 km in southwest-northeast direction between the villages Zöbing am Kamp and Diendorf am Walde, Lower Austria. The graben-like structure has its maximum width of 2 km at the southern margin.

Remarks: -

Complementary references: -

Austrian Stratigraphic Chart 2004 - Paleozoic

(sedimentary successions)

Austrian Stratigraphic Commission



ERA	SYSTEM / PERIOD / SERIES / EPOCH	STAGE / AGE	DURATION Ma	Global Classification					
				ERATHM / ERA	SYSTEM / PERIOD / SERIES / EPOCH				
PALEOZOIC	PERMIAN	CHANGHSINGIAN / Dorashanian	251	PERMIAN	MID PERMIAN / GUADALUPIAN				
		WUCHIAPINGIAN / Dzhulfian	255						
		CAPITANIAN	260						
		WORDIAN	265						
		ROADIAN	270						
		PERMIAN	LOWER PERMIAN / CISURALIAN			KUNGURIAN	275		
						ARTINSKIAN	280		
						SAKMARIAN	285		
						ASSELIAN	290		
		PERMIAN	UPPER PERMIAN / CARBONIFEROUS			GZHELIAN	295	PERMIAN	LOWER PERMIAN / CISURALIAN
KASIMOVIAN	300								
MOSKOVIAN	305								
BASHKIRIAN	310								
PERMIAN	UPPER PERMIAN / CARBONIFEROUS			SERPUKHOVIAN	315				
				VISEAN	320				
					325				
PERMIAN	LOWER PERMIAN / MISSISSIPPIAN			TOURNAISIAN	330	PERMIAN	LOWER PERMIAN / MISSISSIPPIAN		
				335					
				340					
		345							
		350							
		355							
		359.2							
		365							
		370							
		375							
PERMIAN	UPPER DEVONIAN	FAMENNIAN	380	PERMIAN	UPPER DEVONIAN				
		FRASNIAN	385						
		GIVETIAN	390						
		EIFELIAN	395						
		DEVONIAN	LOWER DEVONIAN			EMSIA	400		
						405			
		PRAGIAN	410						
		LOCHKOVIAN	415						
		PERMIAN	LOWER DEVONIAN			LUDFORDIAN	420	PERMIAN	LOWER DEVONIAN
						GORSTIAN	425		
HOMERIAN	430								
SHEINWOOD	435								
TELYCHIAN	440								
AERONIAN	443.7								
RHUDDANIAN	445								
HIRNANTIAN	447								
PERMIAN	UPPER ORDOVICIAN			450	PERMIAN	UPPER ORDOVICIAN			
				455					
		460							
		465							
		470							
		475							
		480							
		485							
		488.3							
		490							
PERMIAN	MIDDLE ORDOVICIAN	495	PERMIAN	MIDDLE ORDOVICIAN					
		500							
		505							
		510							
		515							
		520							
		525							
		530							
		535							
		540							
PERMIAN	LOWER ORDOVICIAN	542	PERMIAN	LOWER ORDOVICIAN					
		545							
		550							
		555							
		560							
		565							
		570							
		575							
		580							
		585							
PERMIAN	UPPER CAMBRIAN	590	PERMIAN	UPPER CAMBRIAN					
		595							
		600							
		605							
		610							
		615							
		620							
		625							
		630							
		635							
PERMIAN	MIDDLE CAMBRIAN	640	PERMIAN	MIDDLE CAMBRIAN					
		645							
		650							
		655							
		660							
		665							
		670							
		675							
		680							
		685							
PERMIAN	LOWER CAMBRIAN	690	PERMIAN	LOWER CAMBRIAN					
		695							
		700							
		705							
		710							
		715							
		720							
		725							
		730							
		735							



- Legend**
- pelagic, offshore, siliciclastic
 - pelagic, nearshore, calcareous
 - shallow marin, neritic
 - terrestrial-continental, coarse clastic
 - terrestrial-continental, fine clastic
 - evaporite (chloride, sulphate)
 - rhyolite, dacite
 - (basaltic) andesite, trachyandesite
 - basalt
 - phyllite
 - mixed-facies (in corresponding colors)
 - coal (may include several seams)
 - ? position/age doubtful/controversial
 - | equal units
 - \ older unit left \ younger unit right
 - hiatus
 - unconformity
 - GSSP
 - Fm. Formation
 - Ls. Limestone

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Cutout and English adaptation of the "Die Stratigraphische Tabelle von Österreich 2004": Geological Survey of Austria

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