

Lateral unit(s): -

Geographic distribution: W-GWZ; Tyrol, Salzburg; Kitzbüheler Alpen, Dientener Berge, N Pongau.

Remarks: MOSTLER (1968) subdivided the Wildschönau Schists by the intercalation of the Blasseneck Porphyry into Lower and Upper Wildschönau Schists. In the ASC 2004 the Wildschönau Schists represent only the Lower Wildschönau Schists. Due to the lack of detailed mapping and biostratigraphy the Wildschönau Schists of the Tyrolian Wildschönau – Kitzbühel area cannot be linked easily with the siliciclastics around Saalbach – Zell am Zee (Salzburg) where HEINISCH (1986) differentiated several Silurian/Devonian formations (Löhnersbach, Schattberg and Klinglerkar Formations) in domains previously assigned to Wildschönau Schists. W of Zell am See they are part of the Glemmtal Unit (HEINISCH, 1986).

Complementary references: OHNESORGE (1905), MOSTLER (1970), TOLLMANN (1977), SCHÖNLAUB (1979, 1980a), HEINISCH (1988), HEINISCH et al. (1987), SCHLAEGEL (1988), EBNER et al. (1989).

Blasseneck Porphyroid / Blasseneck Porphyry

(description see E-GWZ)

Löhnersbach-Formation / Löhnersbach Formation

FRITZ EBNER

Validity: Valid; formal description by HEINISCH et al. (1987).

Type area: ÖK50-UTM, map sheet 3221 Zell am See (ÖK50-BMN, map sheet 123 Zell am See).

Type section: Southern parts of the Löhnersbachtal, W of Zell am See, NE of Klingler Törl (N 47°19'45" / E 12°37'17"); ÖK50-UTM, map sheet 3221 Zell am See (ÖK50-BMN, map sheet 123 Zell am See) (HEINISCH et al., 1987).

Reference section(s): -

Derivation of name: After the Löhnersbach valley in the Kitzbüheler Alpen ca. 11 km WNW of Zell am See (ÖK50-UTM, map sheet 3221 Zell am See; ÖK50-BMN, map sheet 123 Zell am See).

Synonyms: Partim the "Höhere Wildschönauer Schiefer" (MOSTLER, 1968).

Lithology: Alternation of phyllites, metasiltstones and metasandstones. Within this sequence the average content of metasandstones is ~50 %. Wide areas are dominated by thin-bedded metasiltstones. Turbidite Bouma sequences are differently complete (HEINISCH, 1986).

Fossils: -

Origin, facies: Basinal distal turbidite facies (distal channel facies of deep sea fans; HEINISCH et al., 1987).

Chronostratigraphic age: Lower Silurian–Emsian (HEINISCH et al., 1987).

Biostratigraphy: -

Thickness: Max. 1,300 m (HEINISCH, 1988).

Lithostratigraphically higher rank unit: Wildschönau Group (sensu SCHÖNLAUB & HEINISCH, 1993).

Lithostratigraphic subdivision: -

Underlying unit(s): Uppermost Ordovician–lower Silurian epiclastic porphyroid materials interpreted as equivalents or reworked parts of the Blasseneck Porphyry (HEINISCH & SCHÖNLAUB, 1993).

Overlying unit(s): Klinglerkar Formation (HEINISCH, 1988) and the Metabasite Group (HEINISCH, 1988; SCHLAEGEL-BLAUT, 1990; HEINISCH et al., 1995, 2003).

Lateral unit(s): In upper parts lower parts of the Klinglerkar Formation (SCHLAEGEL-BLAUT, 1990; HEINISCH, 1988).

Geographic distribution: W-GWZ; Tyrol, Salzburg, Kitzbüheler Alpen.

Remarks: This lithostratigraphic unit was proposed as a formation because MOSTLER's (1968) subdivision in Lower and Upper Wildschönau Shales is not applicable for the siliciclastic domains (Glemmtal Unit sensu HEINISCH, 1988) W of Zell am See (HEINISCH et al., 1987).

Complementary references: EBNER et al. (1989, 2008), SCHÖNLAUB & HEINISCH (1993).

Dienten-Schiefer / Dienten Schists

FRITZ EBNER

Validity: Invalid; used for a long time in terms of a formation but not formalized.

Type area: Dientener Berge (ÖK50-UTM, map sheet 3221 Zell am See; ÖK50-BMN, map sheet 124 Saalfelden; ÖK50-UTM, map sheet 3222 St. Johann im Pongau; ÖK50-BMN, map sheet 125 Bischofshofen).

Type section: No type section is specified in the literature.

Reference section(s): -

Remarks: First descriptions (AIGNER, 1931; MOSTLER, 1966a) are related to the Lachtal-Grundalm SW Fieberbrunn (ÖK50-UTM, map sheet 3214 Kitzbühel; ÖK50-BMN, map sheet 122 Kitzbühel) and to the magnesite mine at Entachenalm (ÖK50-UTM, map sheet 3221 Zell am See; ÖK50-BMN, map sheet 124 Saalfelden) (FRIEDRICH & PELTZMANN, 1937).

Derivation of name: After the village of Dienten (N 47°23'04" / E 13°00'15"); ÖK50-UTM, map sheet 3221 Zell am See (ÖK50-BMN, map sheet 124 Saalfelden).

Synonyms: "Dientener Schiefer", partim: "Höhere Wildschönauer Schiefer" (MOSTLER, 1968; TOLLMANN, 1977).

Lithology: Black, aluminian and siliceous schists and lydite with some intercalations of bituminous limestone. Typical black Dienten Schists develop by the increase of black organic matter from light grey and much more sandy phyllite (Pinzgauer Phyllit = equivalent of the Wildschönau Schists; MOSTLER, 1968).

Fossils: Entachenalm and Lachtal-Grundalm: graptolites (HAIDEN, 1936; FRIEDRICH & PELTZMANN, 1937; JAEGER, 1978). Nagelschmidpalven/Dienten: bivalves, nautiloids (HAUER, 1847; STACHE, 1879; HERITSCH, 1929).

Origin, facies: Partly euxinic basin.

Chronostratigraphic age: Llandovery–middle Ludlow.

Biostratigraphy: Graptolite zones 27–29, 33 and 34/35 (JAEGER, 1978).

Thickness: Up to 200 m.

Lithostratigraphically higher rank unit: -

Lithostratigraphic subdivision: -

Underlying unit(s): Conglomerates.

Overlying unit(s): Dolomite Lydite Group (MOSTLER, 1968; SCHÖNLAUB, 1979, 1980a).

Lateral unit(s): Kitzbühel area: Dolomites, Limestones with tuffs; W Zell am See: lower parts of the Löhnersbach Formation.

Geographic distribution: W-GWZ; Tyrol, Kitzbüheler Alpen; Salzburg, Dientener Berge.

Remarks: -

Complementary references: BAUER et al. (1969), EBNER et al. (1989), SCHÖNLAUB & HEINISCH (1993).

Klinglerkar-Formation / Klinglerkar Formation

FRIITZ EBNER

Validity: Valid; formal description by HEINISCH et al. (1987). Note: spelling of the first description is Klingler Kar-Formation.

Type area: Glemmtal Unit of the Kitzbüheler Alpen W Zell am See (ÖK50-UTM, map sheet 3220 Mittersill; ÖK50-BMN, map sheet 123 Zell am See).

Type section: No type section is explicitly indicated, but HEINISCH et al. (1987: Fig. 2) refer to seven detailed sections mapped at the scale of 1:5,000 (HEINISCH et al., 1987) in the Klinglerkar (NE Klinglertörl, 2,059 m, N 47°19'45" / E 12°37'17"; ÖK50-UTM, map sheet 3220 Mittersill; ÖK50-BMN, map sheet 123 Zell am See). The sections 1–6 are situated along a stripe of 800 m and have a lateral distance of 100–200 m to each other. The seventh section is more distantly situated. The sections exhibit strong lateral lithological differentiations which can be correlated by marker horizons (metapillow lavas, lydite) and conodont biostratigraphy. The formation is subdivided into three subunits (members) assigned by HEINISCH et al. (1987) as “Lower, Middle and Upper Klingler-Kar-Formation” (in the following: “lower member”, “middle member”, “upper member”).

Reference section(s): -

Derivation of name: After the Klinglerkar in the Kitzbüheler Alpen W of Zell am See (ÖK50-UTM, map sheet 3220 Mittersill; ÖK50-BMN, map sheet 123 Zell am See).

Synonyms: Partim Wildschönauer Schichten in the older literature (e.g., MOSTLER, 1968).

Lithology: Limestones, lydites, black schists with sulphide mineralization, green and violet tuffitic schists, pyroclastic breccias and basaltic pillow lavas.

Fossils: Conodonts; nautiloids, radiolarians (“lower” and “middle member”).

Origin, facies: Deep basinal swell deposits outside the influence of siliciclastic turbiditic sedimentation with condensed cephalopod limestones, lydites and black schists (“lower member”) and fine input of clayey materials (“middle member”). The carbonate pelagic deep swell is covered by submarine basaltic flows and pyroclastics (“upper member”; HEINISCH et al., 1987).

Chronostratigraphic age: Uppermost Silurian (Pridoli)–Lower Devonian (Zlichovian regional stage = lower Emsian; HEINISCH et al., 1987). “Lower member”: uppermost Silurian (Pridoli); “middle member”: Lower Devonian (Lochkovian–lower Pragian); base of “upper member” within the lower Emsian.

Biostratigraphy: “Lower member”: *eosteinhornensis* Zone; “middle member”: conodont fauna with fragments of the *Icriodus woschmidti* – *postwoschmidti* – *Icriodus* sp. A

SCHÖNLAUB 1985 – *I. steinachensis* group. Base of the “upper member”: *Polygnatus gronbergi* – *Polygnatus serotinus* zones (HEINISCH et al., 1987).

Thickness: Up to 80 m (a: 10 to 13 m; b: 6 to 16 m; c: 5 to 35 m; HEINISCH et al., 1987).

Lithostratigraphically higher rank unit: Wildschönau Group (sensu SCHÖNLAUB & HEINISCH, 1993).

Lithostratigraphic subdivision: According to HEINISCH et al. (1987) three members can be distinguished: a) The “lower member” is characterized by limestone – lydite alternations, lydite and black schists with sulphide mineralization. The lydite is associated and interfingering with metamarl. b) The “middle member” exhibits rhythmic alternations of thin bedded calcareous marble and platy shale respectively metamarls. c) The “upper member” consists of epiclastic green and violet tuffitic and sometimes banded schists which are intercalated by white marble layers. They are followed by pyroclastic breccias and basaltic pillow lavas which interfinger laterally with metatuffite. All lithologies are of low metamorphic grade (CAI 5 to 8).

Underlying unit(s): Löhnersbach Formation.

Overlying unit(s): Schattberg Formation and parts of the Metabasite Group (HEINISCH et al., 1995) (not indicated in the ASC 2004).

Lateral unit(s): ?Upper Silurian–Lower Devonian siliciclastics of the “Wildschönau Group” (Löhnersbach Formation) and in uppermost parts Metabasite Group (SCHLAEGEL-BLAUT, 1990; HEINISCH et al., 1995, 2003).

Geographic distribution: W-GWZ; Tyrol, Salzburg, Kitzbüheler Alpen.

Remarks: This lithostratigraphic unit was proposed as a formation because MOSTLER’s (1968) subdivision in Lower and Upper Wildschönau Schists is not applicable for the siliciclastic domains W of Zell am See (HEINISCH et al., 1987).

Complementary references: HEINISCH (1986, 1988), EBNER et al. (1989), SCHÖNLAUB & HEINISCH (1993).

Metabasit-Gruppe / Metabasite Group

FRIITZ EBNER

Validity: Invalid; informal working term (HEINISCH et al., 1995, 2003).

Type area: Glemmtal Unit of the Kitzbüheler Alpen W Zell am See (ÖK50-UTM, map sheet 3214 Kitzbühel; ÖK50-BMN, map sheet 122 Kitzbühel; ÖK50-UTM, map sheet 3220 Mittersill, ÖK50-BMN, map sheet 123 Zell am See).

Type section: No type section was explicitly nominated.

Reference section(s): -

Derivation of name: According to the geochemistry of the metavolcanics.

Synonyms: Partim “Diabase”, “intrusive” Diabase (SCHÖNLAUB, 1979, 1980a), partim Basalt Sill Komplex von Maishofen (SCHLAEGEL-BLAUT, 1990).

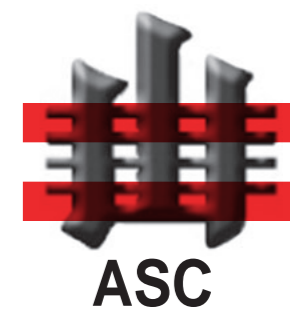
Lithology: a) highly vesicular pillow and massive basalts, gabbroic sills, pyroclastics, tuffites. b) pillow and sheet-flows basalts, many gabbroic and some dioritic sills, thin shale intercalations (SCHLAEGEL-BLAUT, 1990; LOESCHKE & HEINISCH, 1993).

Fossils: -

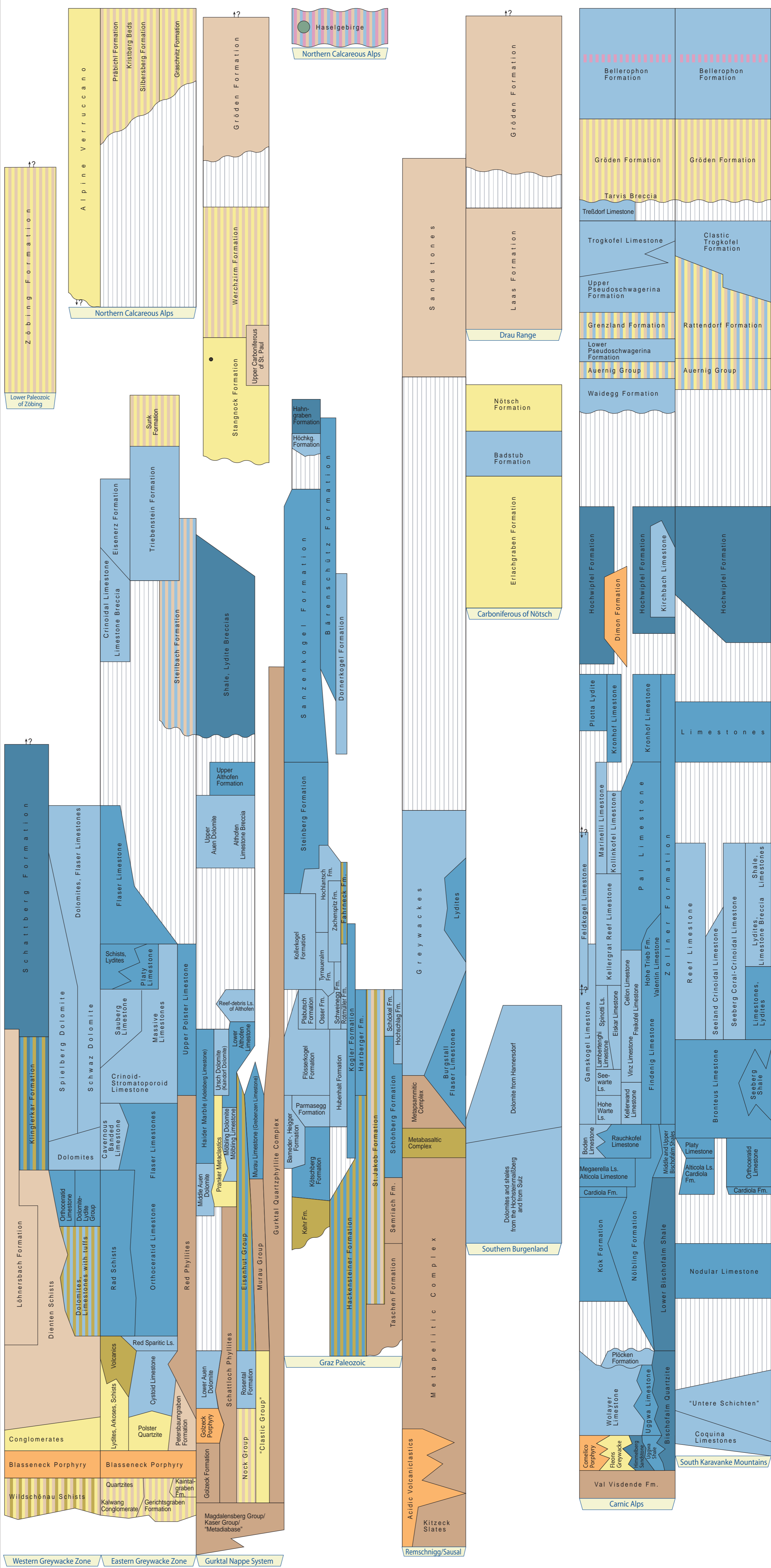
Austrian Stratigraphic Chart 2004 - Paleozoic

(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 / LOPINGIAN				
		WUCHIAPINGIAN / Dufallian	255						
		CAPITANIAN	260						
		WORDIAN	265						
		ROADIAN	270						
		PERMIAN	LOWER PERMIAN / CISURALIAN			KUNGURIAN	275		
						ARTINSKIAN	280		
						SAKMARIAN	285		
						ASSELIAN	290		
		PERMIAN	UPPER PERMIAN / CARBONIFEROUS / PENNSYLVANIAN			GZHELIAN	295	PERMIAN	LOWER PERMIAN / CISURALIAN
KASIMOVIAN	300								
MOSKOVIAN	305								
BASHKIRIAN	310								
PERMIAN	UPPER PERMIAN / CARBONIFEROUS / PENNSYLVANIAN			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			EMSIAN	400		
						405			
		DEVONIAN	LOWER DEVONIAN			PRAGIAN	410		
						415			
		PERMIAN	LOWER DEVONIAN			LOCHKOVIAN	420	PERMIAN	LOWER DEVONIAN
						425			
430									
435									
440									
443.7									
445									
450									
455									
460									
PERMIAN	UPPER ORDOVICIAN	LUDFORDIAN / GORSTIAN	465	PERMIAN	UPPER ORDOVICIAN				
		HOMERIAN / SHEINWOOD	470						
		TELYCHIAN	475						
		AERONIAN	480						
		RHUDDANIAN	485						
		HIRNANTIAN	490						
		495							
		498.3							
		499							
		500							
PERMIAN	MIDDLE ORDOVICIAN	DARRIWILIAN	505	PERMIAN	MIDDLE ORDOVICIAN				
		510							
		515							
		520							
		525							
		530							
		535							
		540							
		542							
		PERMIAN	LOWER ORDOVICIAN			TREMACIAN	545	PERMIAN	LOWER ORDOVICIAN
550									
555									
560									
565									
570									
575									
580									
585									
590									
PERMIAN	UPPER CAMBRIAN	PAIBIAN	595	PERMIAN	UPPER CAMBRIAN				
		600							
		605							
		610							
		615							
		620							
		625							
		630							
		635							
		640							
PERMIAN	MIDDLE CAMBRIAN	505	PERMIAN	MIDDLE CAMBRIAN					
		510							
		515							
		520							
		525							
		530							
		535							
		540							
		545							
		550							
PERMIAN	LOWER CAMBRIAN	555	PERMIAN	LOWER CAMBRIAN					
		560							
		565							
		570							
		575							
		580							
		585							
		590							
		595							
		600							



- 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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