

**Lithostratigraphically higher rank unit:** -

**Lithostratigraphic subdivision:** -

**Underlying unit(s):** Murau Group.

**Overlying unit(s):** -

**Lateral unit(s):** -

**Geographic distribution:** Surroundings of Murau; ÖK50-BMN, map sheets 159 Murau, 160 Neumarkt.

**Remarks:** -

**Complementary references:** SCHÖNLAUB & HEINISCH (1993).

### Oberer Auen-Dolomit / Upper Auen Dolomite

THOMAS J. SUTTNER

**Validity:** Invalid; the name Oberer Auen-Dolomit for this unit was first used by NEUBAUER (1979: p. 467), who mapped and revised the low metamorphic Lower Paleozoic succession in the surroundings of Murau.

**Type area:** ÖK50-UTM, map sheets 3230 Tamsweg, 4225 Murau (ÖK50-BMN, map sheets 158 Stadl, 159 Murau).

**Type section:** -

**Reference section(s):** Section in the vicinity of Haider farmstead located south of Murau in the Auen area (N 47°02'26" / E 14°09'19").

**Derivation of name:** After Auen area (compare locality map of NEUBAUER, 1979: Fig. 1).

**Synonyms:** Dolomitkeile von Laßnitzau [partim] (TURNER, 1956: p. 164).

**Lithology:** Bedded and massive grey limonitic dolomites; dark grey unbedded, brecciated dolomite.

**Fossils:** Conodonts.

**Origin, facies:** Shallow marine limestone, neritic unit.

**Chronostratigraphic age:** Frasnian–Famennian.

**Biostratigraphy:** *asymmetricus* and *gigas* conodont zones.

**Thickness:** 10 m.

**Lithostratigraphically higher rank unit:** Auen Group (see remarks at Golzeck Formation).

**Lithostratigraphic subdivision:** -

**Underlying unit(s):** Haider Marble (Adelsberg Limestone) (unconformable contact).

**Overlying unit(s):** Upper Althofen Formation; Shale, Lydite Breccia (unconformable contact).

**Lateral unit(s):** Althofen Limestone Breccia.

**Geographic distribution:** Styria and Carinthia, in the surrounding of Murau, especially south of it near the Styrian/Carinthian states border in the area of Auen (NEUBAUER, 1979: Fig. 1).

**Remarks:** -

**Complementary references:** TURNER (1958), NEUBAUER (1984), NEUBAUER & PISTOTNIK (1984), SCHÖNLAUB (1992).

### Althofener Kalkbreckzie / Althofen Limestone Breccia

THOMAS J. SUTTNER

**Validity:** Invalid; first observations within the limestone deposits near Althofen were made by REDLICH (1905) and

later described in more detail by HABERFELNER (1936). A description including all criteria necessary for a formal lithostratigraphic characterization is provided by SCHÖNLAUB (1971c: Figs. 1, 2, p. 299).

**Type area:** ÖK50-UTM, map sheet 4102 Althofen (ÖK50-BMN, map sheet 186 Sankt Veit an der Glan).

**Type section:** Ancient quarry of Aich (SCHÖNLAUB, 1971c: Fig. 1, 2; p. 289) some hundred meters NNW of Treibach-Althofen (N 46°52'46" / E 14°28'03").

**Reference section(s):** -

**Derivation of name:** After the town Althofen.

**Synonyms:** Knotenkalk (SCHÖNLAUB, 1971c).

**Lithology:** Limestone breccia (consisting of reworked pebbles of the Lower Althofen Limestone and the Reef-debris limestone of Althofen).

**Fossils:** Calcispheres, conodonts, crinoids, ostracods?, radiolarians.

**Origin, facies:** Shallow marine limestone, neritic unit.

**Chronostratigraphic age:** Generally, the unit is assigned to the Famennian by SCHÖNLAUB (1971c); Lower and Middle Devonian is indicated by reworked conodonts from underlying units.

**Biostratigraphy:** *asymmetricus*, *gigas* and *triangularis* conodont zones.

**Thickness:** Approx. 6 m.

**Lithostratigraphically higher rank unit:** Althofen Group (see remarks at Lower Althofen Limestone).

**Lithostratigraphic subdivision:** -

**Underlying unit(s):** Reef-debris limestone of Althofen (unconformable contact).

**Overlying unit(s):** Upper Althofen Formation (conformable contact).

**Lateral unit(s):** Upper Auen Dolomite.

**Geographic distribution:** Carinthia, in the area between Althofen and Töscheldorf.

**Remarks:** -

**Complementary references:** SCHÖNLAUB (1979, 1992), NEUBAUER & PISTOTNIK (1984), KREUTZER et al. (1997).

### Obere Althofen-Formation / Upper Althofen Formation

THOMAS J. SUTTNER

**Validity:** Invalid; first observations within the limestone deposits near Althofen were made by REDLICH (1905) and later described more in detail by HABERFELNER (1936). A description including all criteria necessary for a formal lithostratigraphic characterization is provided by SCHÖNLAUB (1971c: Figs. 1, 2, p. 300).

**Type area:** ÖK50-UTM, map sheet 4102 Althofen (ÖK50-BMN, map sheet 186 Sankt Veit an der Glan).

**Type section:** Ancient quarry of Aich (SCHÖNLAUB, 1971c: Fig. 1, 2; p. 289) some hundred meters NNW of Treibach-Althofen (N 46°52'46" / E 14°28'03").

**Reference section(s):** -

**Derivation of name:** After the town Althofen.

**Synonyms:** -

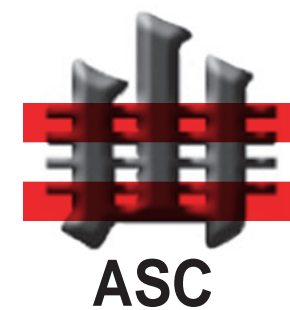
**Lithology:** Thin, platy grey to reddish limestone.

**Fossils:** Conodonts.

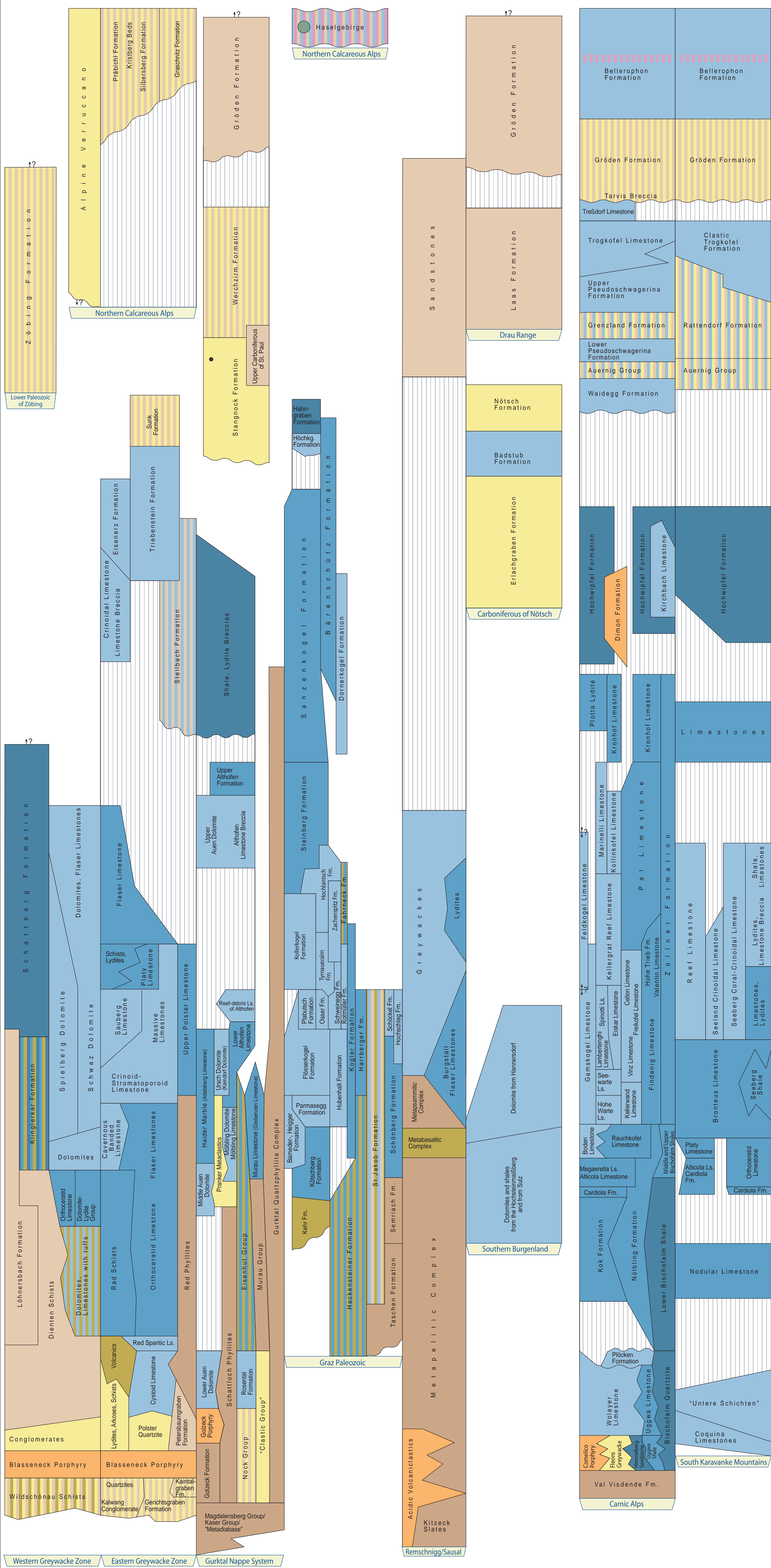
# Austrian Stratigraphic Chart 2004 - Paleozoic

(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 / Dzhulfian	255						
		CAPITANIAN	260						
		WORDIAN	265						
		ROADIAN	270						
		PERMIAN	LOWER PERMIAN / CISURALIAN			KUNGURIAN	275		
						ARTINSKIAN	280		
						SAKMARIAN	285		
						ASSELIAN	290		
		PERMIAN	CARBONIFEROUS			GZHELIAN	295	CARBONIFEROUS	U. CARBONIFEROUS / PENNSYLVANIAN
KASIMOVIAN	300								
MOSKOVIAN	305								
BASHKIRIAN	310								
CARBONIFEROUS	LOWER CARBONIFEROUS / MISSISSIPPIAN			SERPUKHOVIAN	315				
				VISEAN	320				
				TOURNAISIAN	325				
PERMIAN	DEVONIAN			FAMENNIAN	350	DEVONIAN	UPPER DEVONIAN		
				FRASNIAN	355				
				GIVETIAN	360				
		EIFELIAN	365						
		DEVONIAN	LOWER DEVONIAN	EMSIAN	370				
				PRAGIAN	375				
				LOCHKOVIAN	380				
		PERMIAN	SILURIAN	LUDFORDIAN / GORSTIAN	385			SILURIAN	WEN-LOCK / LOW
				HOMERIAN / SHEINWOOD	390				
				TELYCHIAN	395				
AERONIAN	400								
RHUDDANIAN	405								
SILURIAN	UPPER ORDOVICIAN			HIRNANTIAN	410				
				DARRIWILIAN	415				
				TREMA-DOCIAN	420				
PERMIAN	CAMBRIAN			PAIBIAN	425	CAMBRIAN	MIDDLE CAMBRIAN		
				CAMBRIAN	LOWER CAMBRIAN				
		435							
		CAMBRIAN	MIDDLE CAMBRIAN	440					
				445					
		CAMBRIAN	UPPER CAMBRIAN	450					
				455					
		PALEOZOIC	CAMBRIAN	460	CAMBRIAN			LOWER CAMBRIAN	
				465					
				470					
475									
480									
485									
490									
495									
500									
505									
PALEOZOIC	CAMBRIAN	510	CAMBRIAN	MIDDLE CAMBRIAN					
		515							
		520							
		525							
		530							
		535							
		540							
		542							



- 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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