Graphic artist: M. BRUGGEMANN-LEDOLTER

STARNKOGEL

Baumit Bad Ischl

Western side

Massive dendroid corals

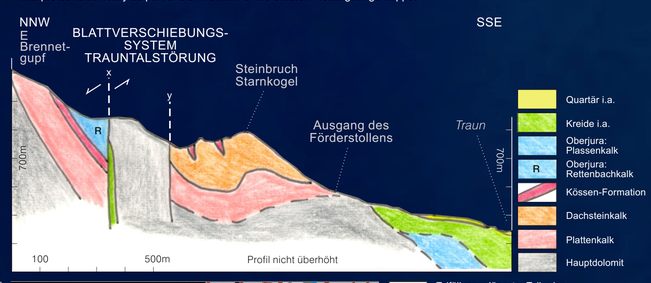
Limestone bed with ca. 15 cm big Megalodonts, preserved in life position. Level 804.

Aerial photo of the quarry with the Traun valley in the background.

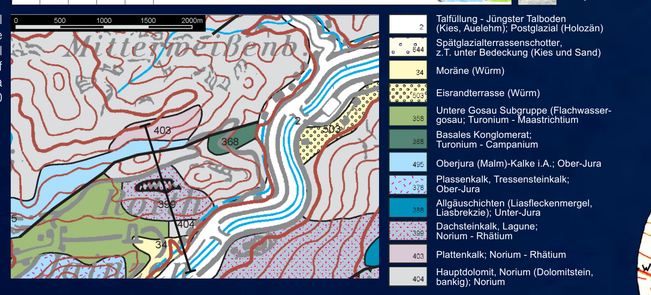
Dated as Rhätian rsp. younger Dachsteinkalk by the foraminifera *Triasina hantkeni* MAJZON 1954.
Thickness of the Dachsteinkalk is unknown due to possible tectonical repetition (approximate value 80 m).
Facies: lagoonal, bedded Dachsteinkalk. Its stratigraphic record shows alternation of muddy and detrital facies. However lateral changes of the facies within one bed should be considered as well. Moreover, variations occur which are characterized by extremely nodular bedding planes and the corresponding marly intercalations [85] as well as dark, thinly bedded, partially boudinaged limestones with similar marly intercalations [132 below the slickenside], mostly in connection with dark slightly thicker beds of coral bearing limestone [91, 138]. Another type consists of very light to yellow weathered thick bedded limestones, free of noticeable marl seams [132 above the slickenside, 137]. Megalodonts occur frequently, but they are strikingly enriched in one bed [129, 130].
Black Kössener Mergel (marls), the same as in the quarry Ebensee within the Dachsteinkalk sequence, occur in the eastern part of this quarry too. They are not extracted for they do not fulfill the requirements to produce lime.
The tectonic structure of this deposit is not satisfactorily understood at the moment. The prevailing direction is E-W (see Schmidt diagrams). Two theories seem possible: either a west dipping syncline or parallel oriented wedges. More biostratigraphic data are necessary.

About 17 m higher up in the profile measured from the bed of the photo 128 there occurs a characteristical bed with numerous Megalodonts accumulated by currents. Photo from level 797.

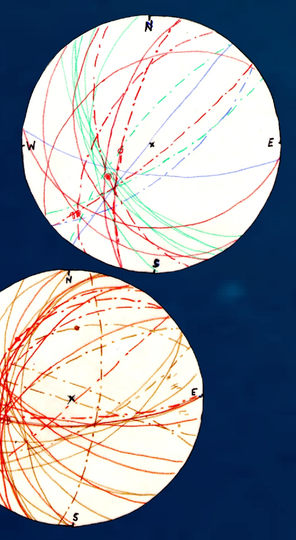
Schematic profile across the Starnkogel, interpreted tektonically as part of the Tirolikum of the Staufen-Höllengebirgs-nappe.



Detail from the Geological Map of Upper Austria 1:200 000



Schmidt diagrams show the tridimensional position of bedding and fault planes. They were acquired on nearly all levels (each of them symbolized by different colours) and could be interpreted as the expression of a west dipping fold structure.
Continuous lines represent bedding planes, broken lines represent fault planes.



Level 797
Thinner bedded marly dark limestones on the left margin of the picture; below them branched corals occur [91]. Above the slickenside (329/67) light thick bedded limestones are following.

Dendroid corals

Nodular bedding planes near the northeast corner, floor 770.

View of the eastern sequence on the quarry floor, 770.

The light bedded limestones on the uppermost level are a useful protection against seeing into the quarry from Bad Ischl the nearest town at present.

The extracted limestone is mainly used for the production of lime and hydrated lime resulting in the two main products shown on the photo ("Feinkalk" and "Spezikalk"). But the lime is also the basic ingredient of many building materials **produced in the plant near Bad Ischl. The building materials comprise products for facades, plastering and screeds.**

Middle part of the upper quarry, viewed from the main level.

The floor is covered with about 3 m thick waste of soil and building material (foreground). The folded siliceous limestones with several intercalated cm thick marl layers, reaching a thickness of up to 8 m and lying beneath the Rettenbachkalk, are unsuitable for all imaginable purposes and were spared from extraction **X**.

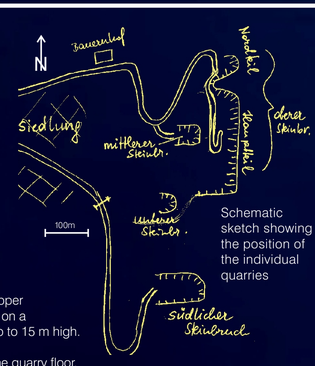
Upper quarry, middle part. Rettenbachkalk, massive to thick bedding, beige to pink-brown, cut by tectonic planes of movement (faults with slickensides).
In this part it shows comparatively minor thickness (6 instead of at least 10 m) either because it represents the deeper part only or parts of it are tectonically omitted.

South of the rise of the siliceous limestones.
Radiolarian cherts are the formation underlying the Rettenbachkalk. These cherts show a bedding of about 1 decimetre, a greenish colour and have only 1 - 2 cm thin intermediary marl layers.
B-axis of the fold: ca. 230/20.
Tape measure 1 m.

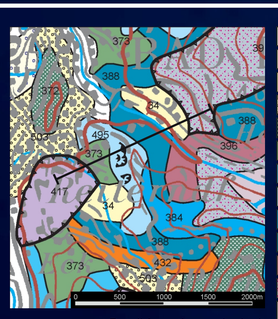
An up to 50 cm thick transition zone is made up of a breccia: the lower bed to the left (27 cm thick) shows rounded floating clasts of red radiolarian chert in a groundmass of green radiolarian chert. The overlying bed consists of beige limestone (Rettenbachkalk) which starts at the bottom with reworked limestone clasts floating in the cherty groundmass which is fading out into black sutured seams higher upwards.

Southern part of the upper quarry: Wall facing west and southerly wall facing north.
The quarry is divided into the lower face of 9 m hight and the upper face of up to 15 m hight, rsp. into the floor and the main level.

The small middle quarry of the upper quarry's group, westerly situated on a lower level, ca. 30 m wide and up to 15 m high. North and west face.
Building waste material covers the quarry floor.
It is the sole quarry where sawing techniques were used for dimension stone that was later processed for polished slabs. Yet, today mainly slickensides and fracture planes are visible. On the contrary the remaining quarries were all worked by blasting.
According to FENNINGER & HOLZER (1971) the Rettenbachkalke - here they are massively bedded up to 2,5 m, orientation 253/18 - are succeeded by marly, about 1 dm thick, undulatory beds of Rettenbachschichten. They gradually pass into the overlaying Schrambachschichten (**X**).

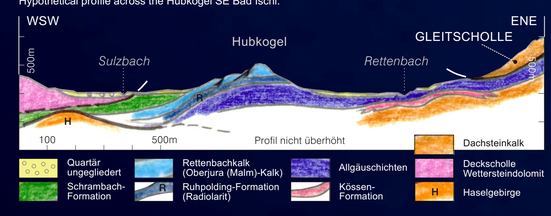


Schematic sketch showing the position of the individual quarries



Detail from the geological map of Upper Austria 1:200 000

Hypothetical profile across the Hubkogel SE Bad Ischl.



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HUBKOGEL - REITERNDORF

Stonemason Company: A. Mullegger

Northern group of quarries / former Müllegger-Brüche

Red micritic limestone showing the stylolitic network of a stylobreccia yet it is not composed of transported components. It corresponds to the polished "Ischler fawn". However, due to tectonical separation planes only stone for river construction was **produced from this quarry.**

Western face with up to 9 m thick Rettenbach-kalk and the middle part of the quarry.

Eastern face showing a slickenside (right side of photo):
In spite of its thin bedding it is identified as Rettenbachkalk.

The up to 17 m thick rock slab of light beige, black weathered, thick bedded to massive (in the eastern wall thin bedded) west dipping Rettenbachkalk was extracted, thereby exposing the former underlaying thin bedded and folded radiolarian cherts throughout the large middle front of the quarry whereas the Rettenbachkalk remaines only as a frame.

Southerly quarry / former quarry of the Traun-river construction management

Typical pedestal stone - war memorial at Bad Ischl.

Commodities

Use in the interior design
And architecture, retaining walls in road engineering, facings of buttresses and bridge piers, also for river structural works.

Stylobreccias formed by diagenesis and tectonics were traded as „Ischler Gemischtfarbig" („Ischler mixed coloured"). Floor slabs ca. 30 x 60 cm.

Model slab „Ischler Rehbraun („Ischler fawn"), polished (pen 15 cm)

Model slab „Ischler Hell" („Ischler light"), polished (Pen 15 cm).

Slabs for outdoor facings, chiselled.

Geologische Bundesanstalt