

Škofjeloški konglomerat

Škofja Loka conglomerate

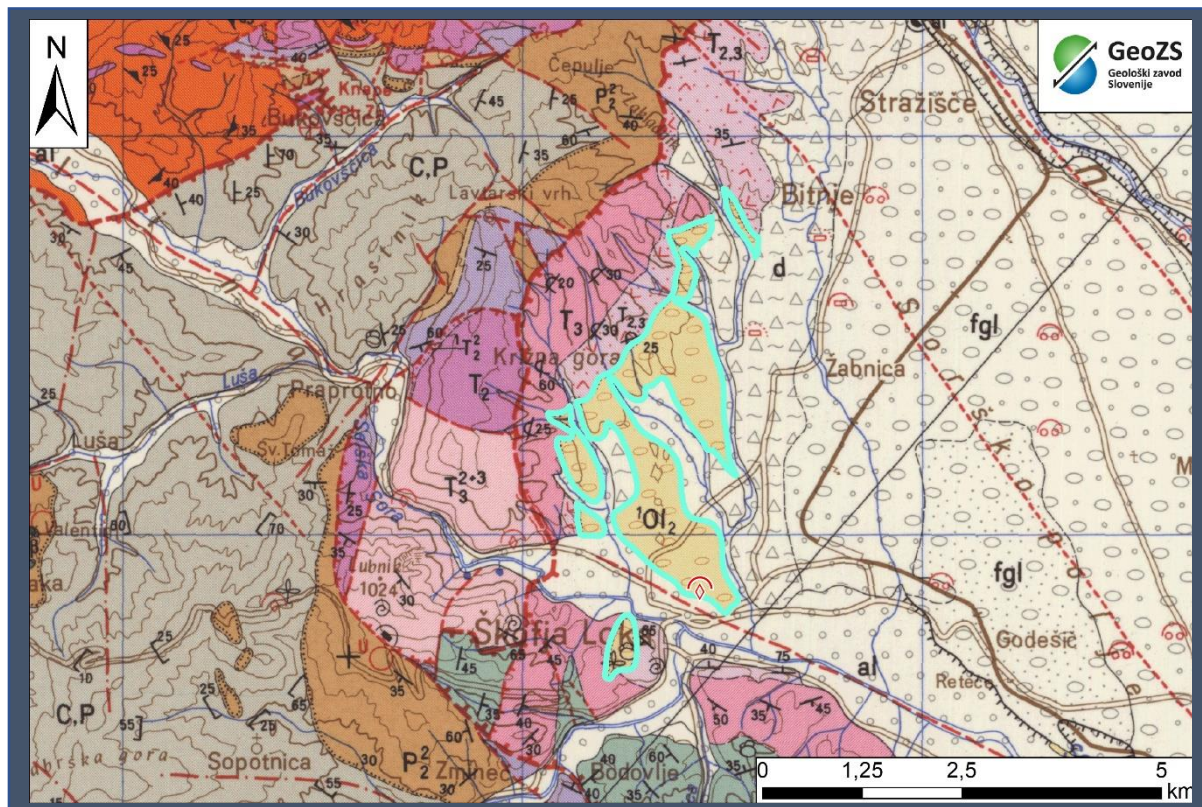


5 cm

Short description: Medium to coarse grained reddish and yellowish calcareous conglomerate. The image displays a rough surface.

Commodity (vocabulary)	Lithology (vocabulary)	Typical colour (code list)	Place of origin			
			Country	County / District / Province	Municipality / Community	Place/town / Village
sandstone	Conglomerate (calcareous)	multicoloured	Slovenia	Gorenjska (traditional province)	Škofja Loka	Kamnitnik, Škofja Loka

Geological setting



Geology: Basal unit of the subsiding Oligocene intercontinental Pannonian Sea, a part of Paratethys Ocean. The unit consists of different braided river channel and sand bars deposits. Typical coarse-grained conglomerate with well-rounded pebbles alternate with conglomeratic breccia composed of a mixture of differently sized and poorly rounded pebbles, fine-grained conglomerate and thinner cross-laminated sandstone layers.

Production: No (abandoned quarries Kamnitnik-1, Kamnitnik-2)

Geological age: Early Oligocene

Geological unit: Škofja Loka conglomerate of the Pannonian Basin.

Application, use and heritage

Description: Known from Roman times in columns. Used mainly locally as building stone for houses, portals, window frames, fences, and bridges.



Entrance portal of the baroque building from 1710 in Ljubljana made of Škofja Loka conglomerate.

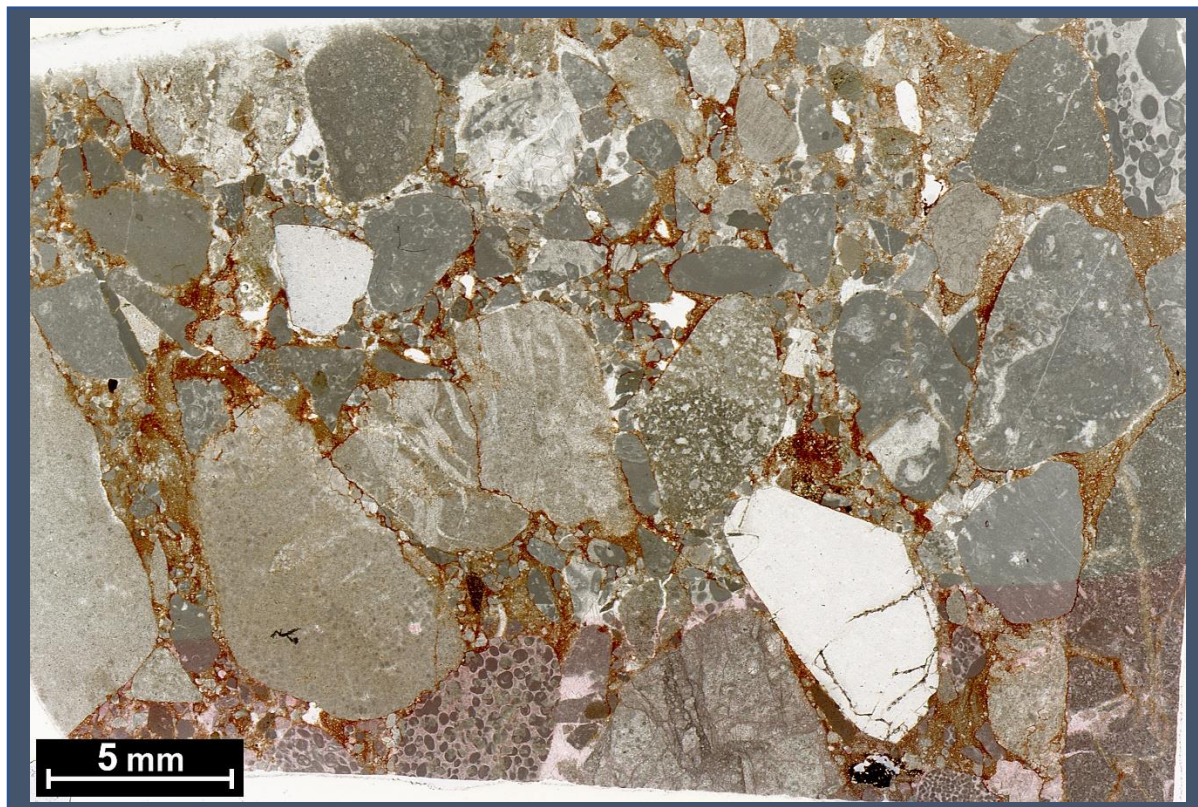


Škofja Loka conglomerate preserved as decorative architectural elements in renovated buildings in Ljubljana.



The portico at the main southern gate of the Roman wall in Ljubljana is decorated with Škofja Loka conglomerate. The pillars are not ancient, but rather added by Plečnik.

Petrography



Description: Conglomerate consists of different types of carbonate and rare chert pebbles, strongly cemented by brick-red sandy-silt matrix. Most common pebbles are grey ooid limestone and light grey dolomite of Jurassic age, dark grey and black Early Cretaceous limestone, red-brown Late Cretaceous limestone, and shale. Less common pebbles are pink Early Triassic ooid limestone.

Source of information: Ramovš, 1968; Vesel et al., 1975.

Mineral composition

If no accurate number, use MM=main minerals, SM = Subordinate minerals, AM=accessory minerals

Mineral n (%)	Mineral n (%)	Mineral n (%)	Mineral n (%)	Mineral n (%)	Mineral n (%)	Mineral n (%)

Source of information:

Physical properties

Apparent density (EN 1936) kg/m ³	Open porosity (EN 1936) % vol	Water absorption at atmospheric pressure (EN 13755) % wt	Uniaxial Compressive strength (EN 1926) MPa	Flexural strength under concentrated load (EN 12372) MPa

Real density (EN 1936) kg/m ³	Total porosity (EN 1936) % vol	Water absorption coefficient by capillary (EN 1925) (g/m ² x s ^{0,5})	Flexural strength under constant moment (EN 13161) MPa

Frost resistance (EN 12371)				
Technological Test (Test A)				Identification Test (Test B): Number of cycles completed prior to stone failure
Flexural strength (EN 12372) after freeze-thaw cycling, MPa	Number of cycles	Uniaxial compressive strength (EN 1926) after freeze-thaw cycling, MPa	Number of cycles	

Resistance to ageing by thermal shock (EN 14066)			
Change in dynamic modulus of elasticity (increase: +; decrease: -) %	Change in open porosity (increase: +; decrease: -) %	Change in ultrasound pulse velocity (increase: +; decrease: -) %	Change in flexural strength under conc. load (increase: +; decrease: -) %

Abrasion resistance (EN 14157)			Resistance to salt crystallisation (EN 12370)	Breaking load at dowel hole (EN 13364)	
Method A - Wide Wheel Abrasion Test, mm	Method B - Böhme Abrasion Test, cm ³ / 50cm ²	Method C - Amsler Abrasion Test, mm	Change in mass (increase: +; decrease: -), %	Breaking load, N	Thickness of the test specimens, mm

Slip resistance by means of the pendulum tester (EN 14231 / CEN/TS 16165)			Rupture energy (EN 14158), Joule	Thermal Conductivity (EN 1745), W/m·K
Tested surface finish	Slip Resistance Value — SRV			
	Dry test condition	Wet test condition		

Methods applied and source of information:

Chemical properties

Main elements

SiO ₂ (%)	Al ₂ O ₃ (%)	Fe ₂ O ₃ (%)	TiO ₂ (%)	MgO (%)	CaO (%)	Na ₂ O (%)	K ₂ O (%)	MnO (%)	P ₂ O ₅ (%)	SO ₃ (%)	LOI (%)

Trace elements

V (ppm)	Cr (ppm)	Mn (ppm)	Co (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)
Sr (ppm)	Cd (ppm)	Ba (ppm)	Pb (ppm)	Be (ppm)	Rb (ppm)	Bi (ppm)	U (ppm)
Sc (ppm)	Y (ppm)	Th (ppm)	Sb (ppm)	Ta (ppm)	Nb (ppm)	Zr (ppm)	Sn (ppm)
Ag (ppm)	B (ppm)	Mo (ppm)	W (ppm)	Ga (ppm)	Ge (ppm)	Se (ppm)	Cs (ppm)
Tl (ppm)							

REE

La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)
Dy (ppm)	Ho (ppm)	Er (ppm)	Tm (ppm)	Yb (ppm)	Lu (ppm)		

Methods applied and source of information:

Sources of more information

Type of information	Name of provider	URL
This data sheet		
Non-commercial directory	Geological Survey of Slovenia: Mining book	https://ms.geo-zs.si/Nahajalisce/Podrobnosti/2237?culture=en-GB
Commercial directory		
Scientific publication	MIRTIČ, B., MLADENVIČ, A., RAMOVŠ, A., SENEGAČNIK, A., VESEL, J., & VIŽINTIN, N. 1999. Slovenski naravni kamen. Ljubljana, Geological Survey of Slovenia, Slovenian National Building and Civil Engineering Institute, University of Ljubljana Geology department. 131 pg. VESEL, J., ŠKERLJ, J., ČEBULJ, A. & GRIMŠIČAR, A. 1975. Nahajališča okrasnega kamna v Sloveniji. / Freestone quarried in Slovenia. Geologija 15. RAMOVŠ, A. 1968. Škofjeloški konglomerat, njegova sestava, fosilni ostanki in geološka zgodovina. Loški razgledi, 15, 164-179.	
Other publication		

Compiled by:	Geological Survey of Slovenia (GeoZS) www.geo-zs.si	Logo 
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