

Petra Mitserou

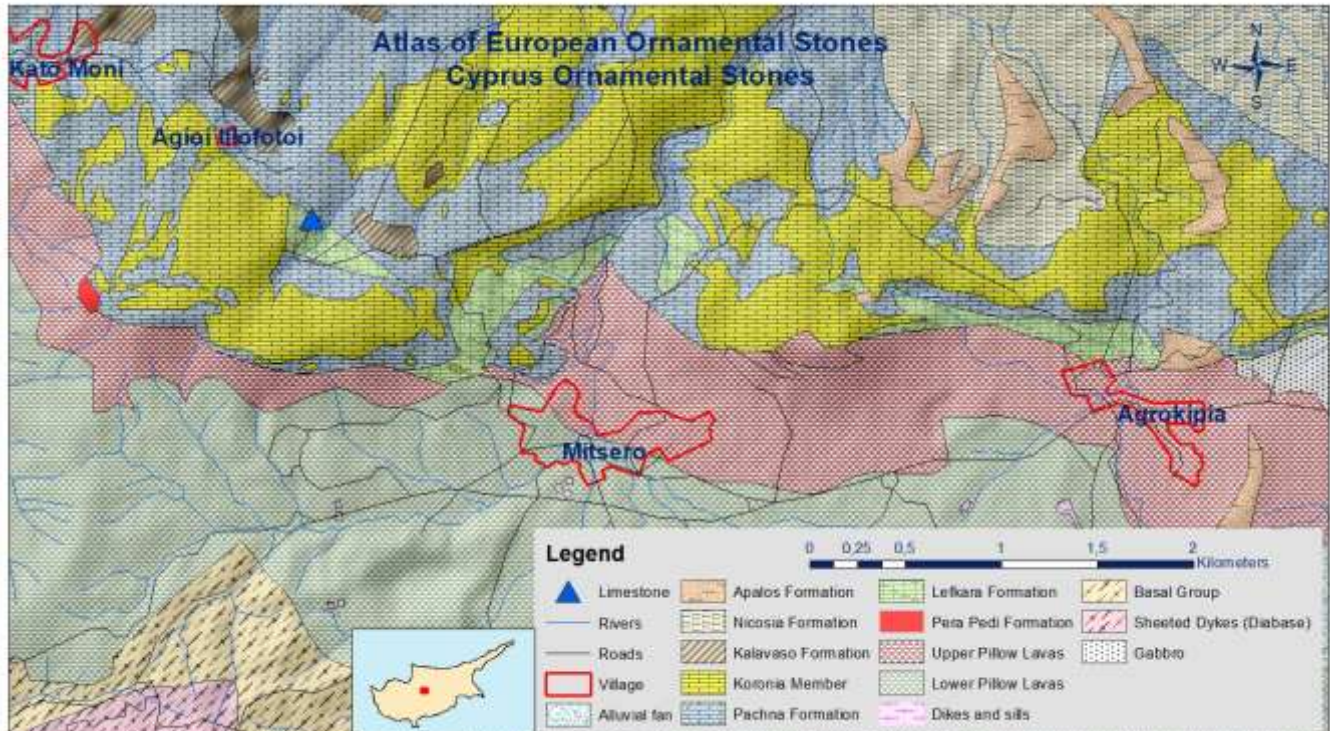


Scale: 1.69: 1

Short description: Limestone dolomite

Commodity (vocabulary)	Lithology (vocabulary)	Typical colour (code list)	Place of origin			
			Country	County / District / Province	Municipality / Community	Place/town / Village
Commercial limestone	Limestone	Pinkish White	Cyprus	Nicosia	Mitsero	Mitsero

Geological setting



Geology: Member of Koronia. Reef Limestone containing of coarse-grained calcareous sandstones and mudstone and marls to a lesser extent. Coarse grain rocks include fossils of species that live in shallow seas. Other components of these rocks are pieces of chalk, marl and chert derived from underlying sedimentary rocks as well as material derived from the Troodos ophiolite rocks.

Production: In 2020, 300.000 tons were produced. The quarries area is near and northwest the Mitsero village, located southwest of Nicosia.

Geological age: Messinia (Upper Miocene) / 7,2- 5,3 million years ago

Geological unit: Koronia Member / Pachna Formation

Application, use and heritage



Description: Construction of wall with reef limestone quarried from local quarry in Mitsero village



Description: Paving in Protaras with a combination of Petra Troodous (diabase) and Mitsero reef limestone.

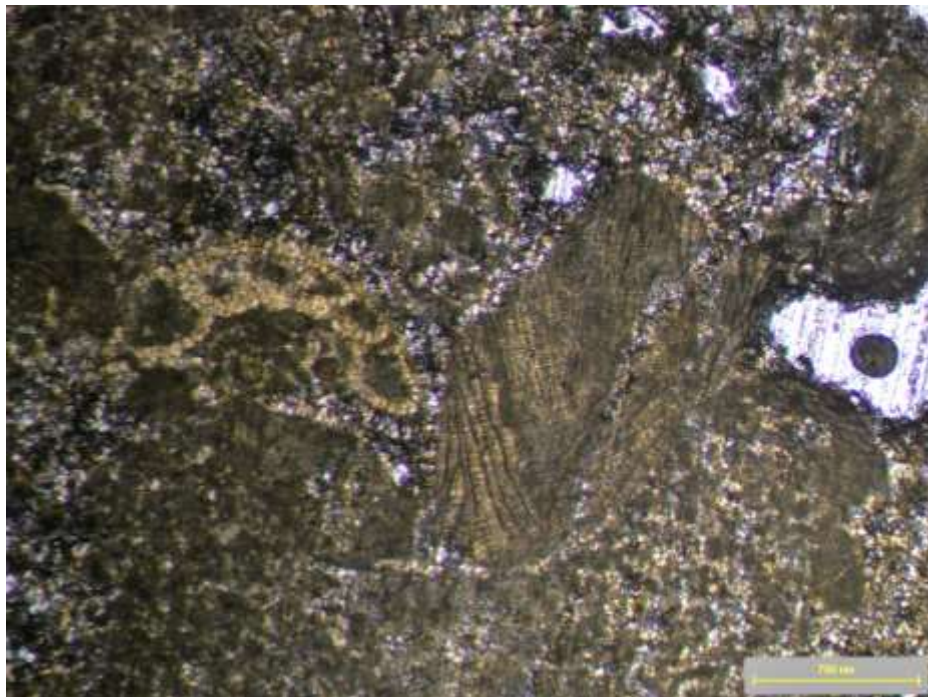
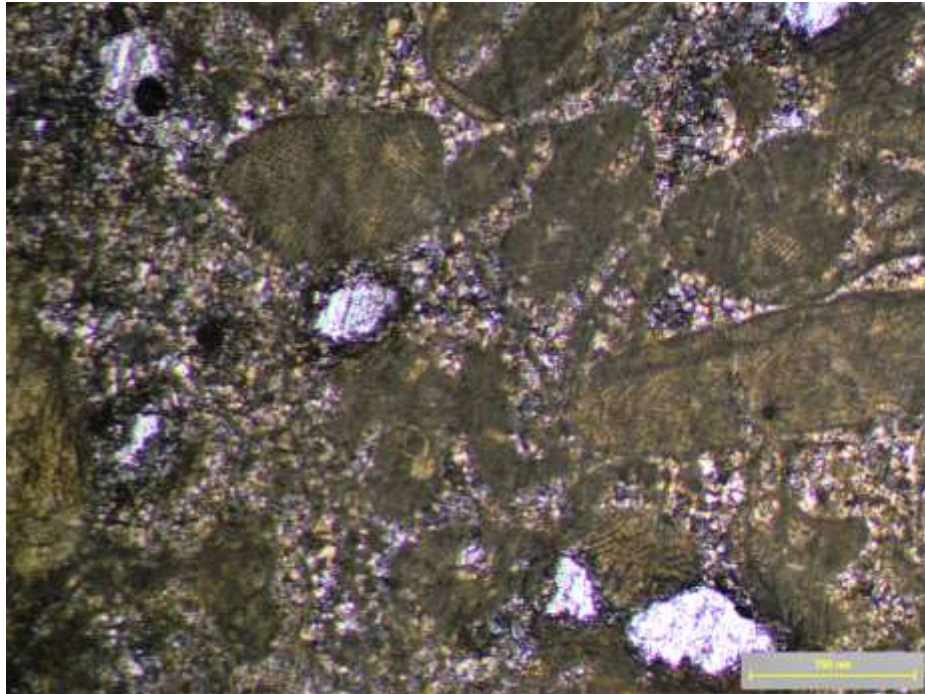


Description: Reef Limestone of Mitsero is suitable for exterior uses, such as on wall and floor coverings and public areas. The pictures above show an unfinished Winery in the village of Stroumbi in the province of Paphos.



Description: Paving with Mitsero limestone.

Petrography



Description: Microphotograph of reef limestone, showing organogenic limestone sediments including fragments of fossils, micrite and sparry calcite.

Mineral composition

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

Calcite (%)	Dolomite (%)					
20	80					

Source of information: The research project "Characterization of structural and decorative stones used in Cyprus", which was approved and funded by the Research Promotion Foundation. The contractor was a Mosaic and Marble Industry Association with partners for the research work of the Department of Geological Survey, the University of Cyprus (Department of Civil and Environmental Engineering) and the Institute of Geological and Mining Research of Greece.

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
2413	10,0	-	111	16,1

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
2840	15,0	5,918	

Frost resistance (EN 12371) R				
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, mm ³	Method C - Amsler Abrasion Test, mm	Change in mass (increase: +; decrease: -), %	Breaking load, N	Thickness of the test specimens, mm
	n/a		2,41		

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		
	n/a	n/a		

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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 (%)
2	-	-	-	24	72						

Trace elements

V (ppm)	Cr (ppm)	Mn (ppm)	Co (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)
82	57,4	849	19,5	53	63,4	54	3,5
Sr (ppm)	Cd (ppm)	Ba (ppm)	Pb (ppm)	Be (ppm)	Rb (ppm)	Bi (ppm)	U (ppm)
299	0,08	229	12,9	0,5	16,3	0,34	0,5
Sc (ppm)	Y (ppm)	Th (ppm)	Sb (ppm)	Ta (ppm)	Nb (ppm)	Zr (ppm)	Sn (ppm)
11,2	20,5	2,9	0,11	0,03	14	3,1	0,62
Ag (ppm)	B (ppm)	Mo (ppm)	W (ppm)	Ga (ppm)	Ge (ppm)	Se (ppm)	Cs (ppm)
0,026	8	0,2	0,1	6	0,05	0,6	0,48
Tl (ppm)							
0,14							

REE

La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)
21,2	33	3,8	14	3,3	0,9	4,4	0,5
Dy (ppm)	Ho (ppm)	Er (ppm)	Tm (ppm)	Yb (ppm)	Lu (ppm)		
3,35	0,6	1,7	0,3	1,4	0,2		

Methods applied and source of information: ICP, Geochemical – Chemical Laboratory of Cyprus Geological Survey

Sources of more information

Type of information	Name of provider	URL
This data sheet	Cyprus Geological survey	http://www.moa.gov.cy/moa/gsd
Non-commercial directory		
Commercial directory		
Scientific publication		
Other publication		

Compiled by:	Cyprus Geological survey http://www.moa.gov.cy/moa/gsd	
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