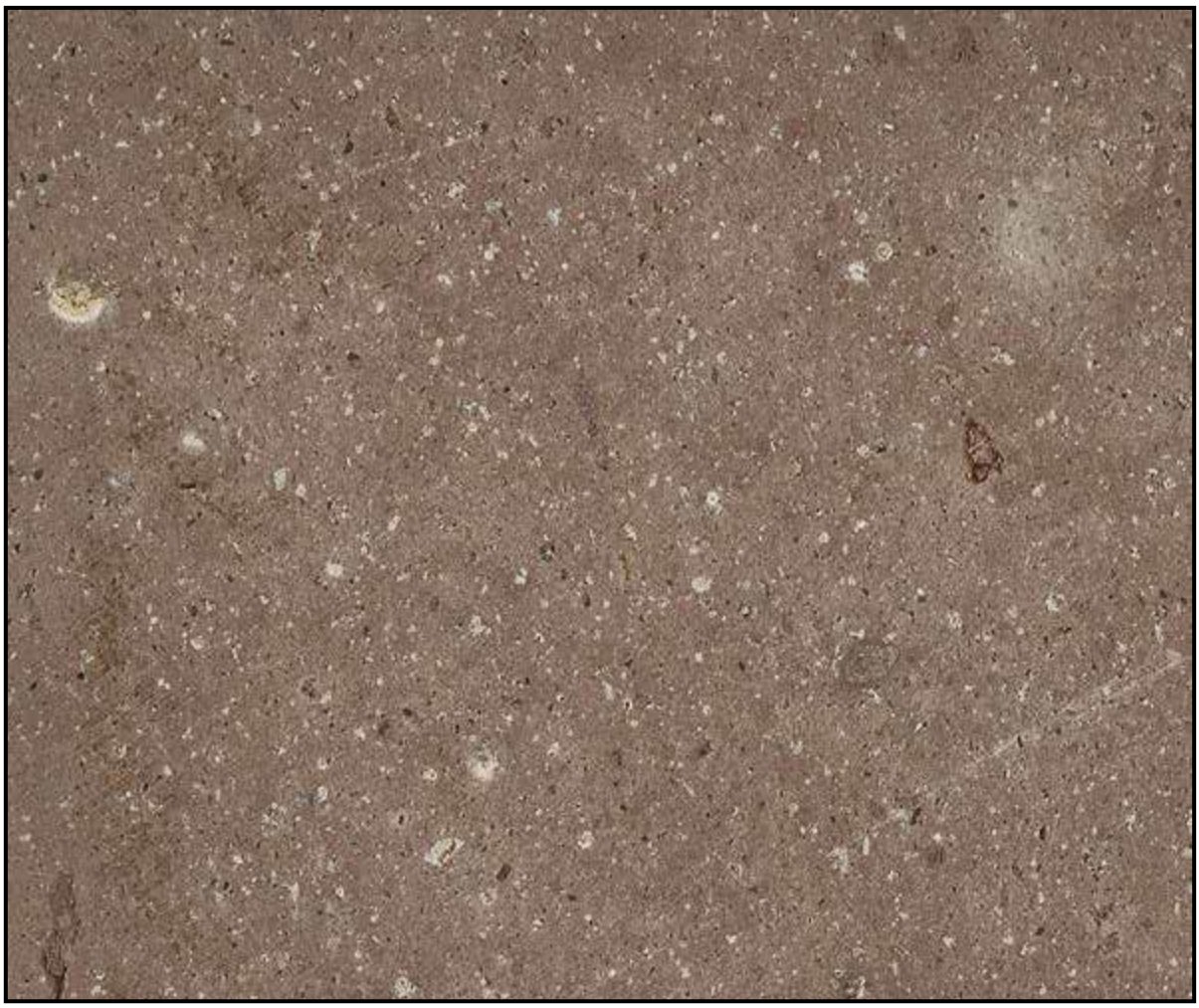
Mystegna Lesvos Ignimbrite

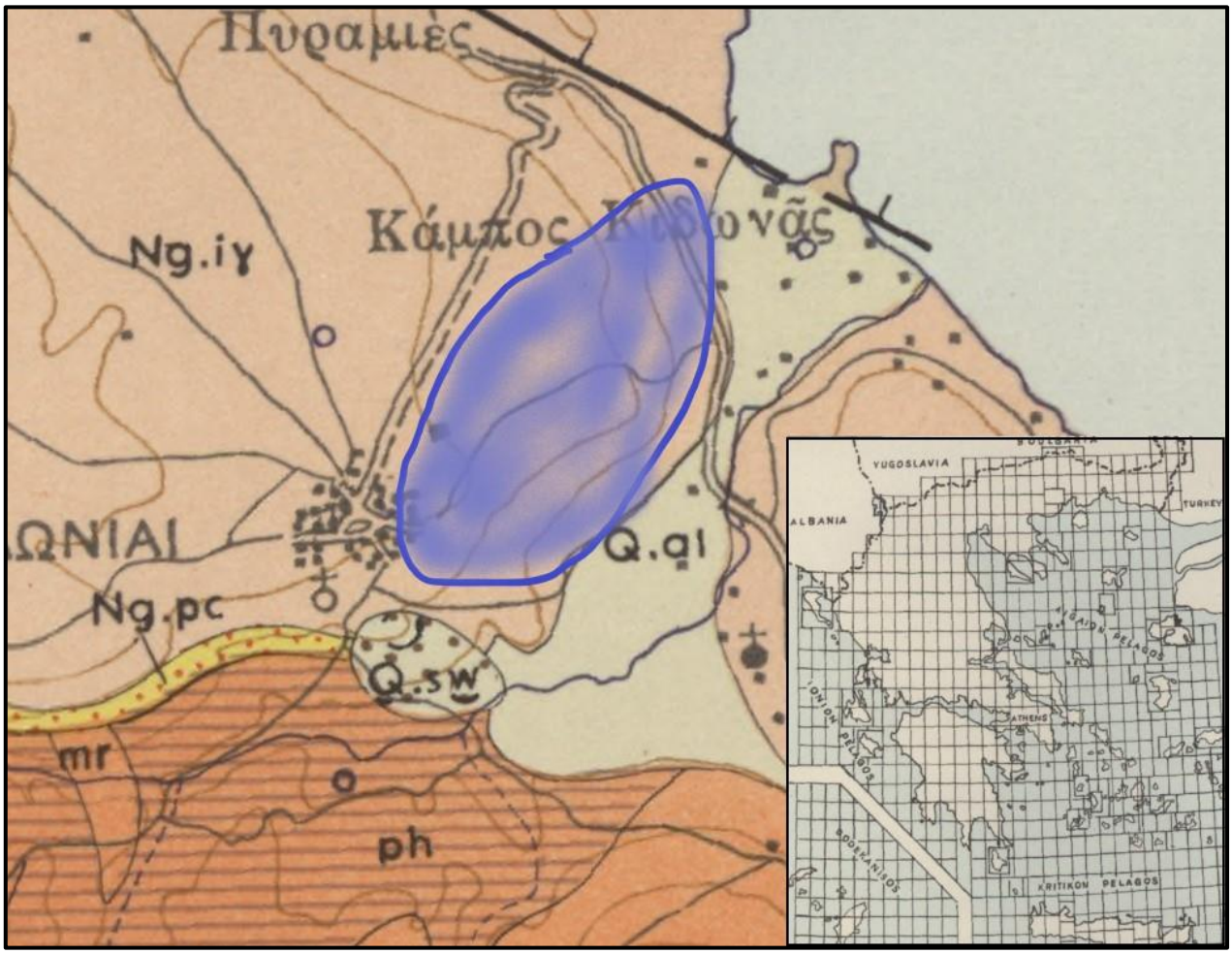


Scale 1:1

Short description: Fine-grained, reddish rock with white and grey spots, characterized by a porphyroclastic texture.

Commodity (vocabulary)	Lithology (vocabulary)	Typical colour (code list)	Place of origin			
			Country	County / District / Province	Municipality / Community	Place/town / Village
Miscellaneous ornamental stones	Ignimbrite	Reddish-Brown	Greece	North Aegean	Lesbos	Mystegna

Geological setting



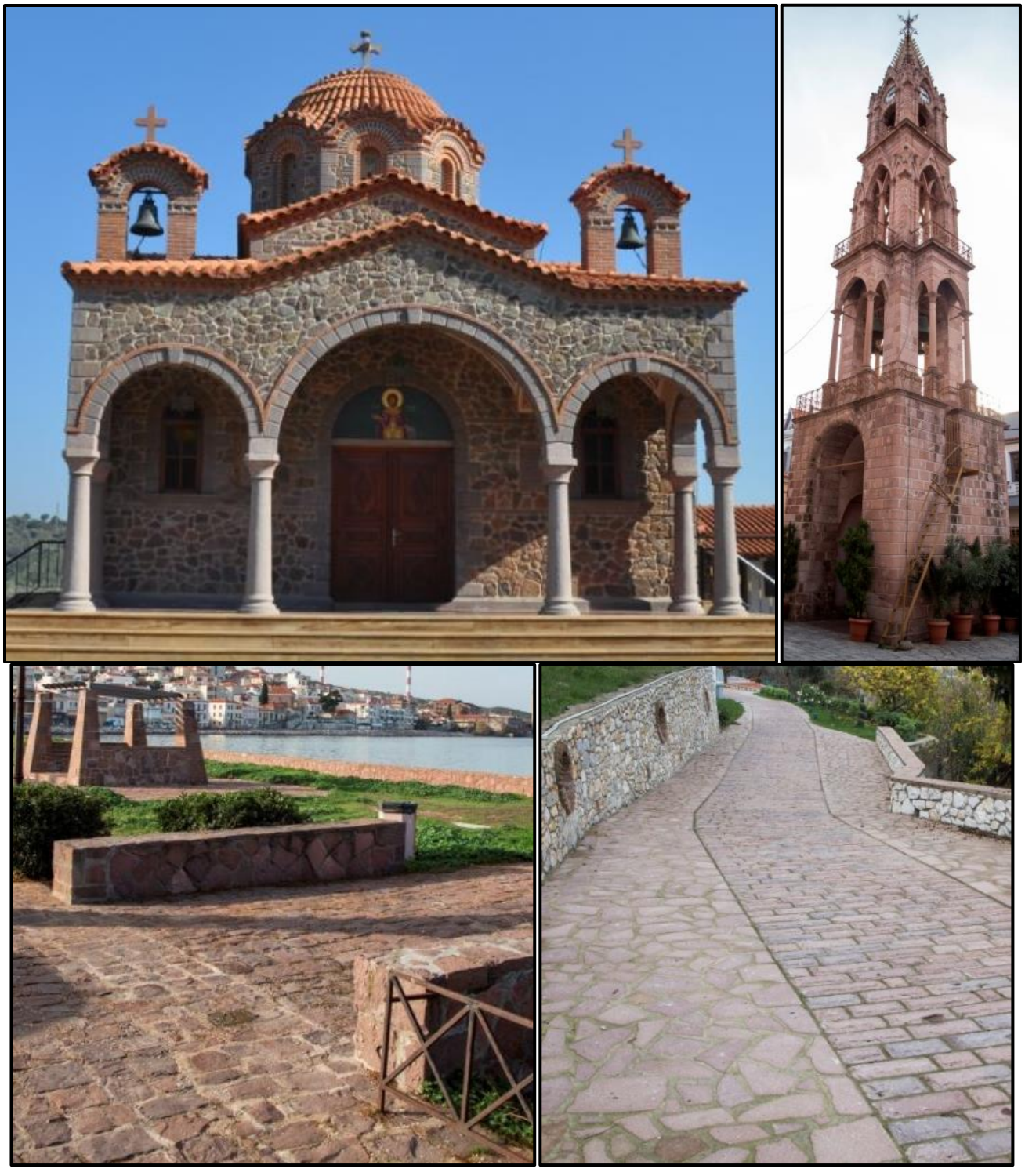
Geology: Mystegna Lesvos Ignimbrite (blue marking) is an extrusive rock, belonging to the ignimbrite layer, rhyolitic to rhyodacitic, in the upper parts more vitrophyric, in the lower parts more tuffitic with a lower degree of welding.
(Source: Geological Map of Greece 1:50000, Lesvos Island /Ayia Paraskevi Sheet)

Production: The quarry area is near Nees Kydonies village, in the Northern part of Lesvos Island.

Geological age: Neogene - Pliocene
Geological unit: Extrusive Rocks – Ignimbrite layer

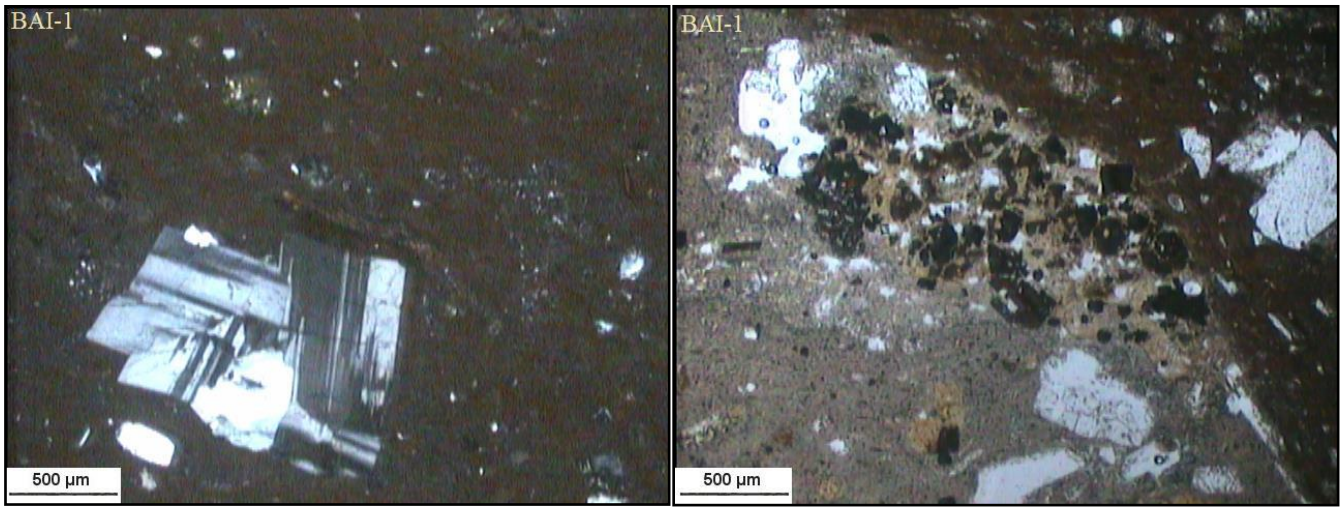
Application, use and heritage

Description: Mystegna Lesvos Ignimbrite is ideal for various stone constructions used as building material, for masonry, terraces, gutters, benches and walls. It can be used for paving of roads and footpaths and for the construction of indoor and outdoor floors.



Various applications of Mystegna Lesvos Ignimbrite.

Petrography



Description: Photomicrograph of thin section, showing mineral grains (quartz, feldspars, biotite, etc), consisting of hypidiomorphic to idiomorphic crystals, and less lithic fragments of volcanic origin, which are subangular to rounded. The reddish – brown colour is due to the presence of iron hydroxides and oxides.

Source of information: Hellenic Survey of Geology and Mineral Exploration

Mineral composition

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

Albite - Sanidine (%)	**Orthoclase (%)**	**Phlogopite (%)**	**Biotite (%)**	**Tosudite (%)**	**Anatase (%)**	**Apatite (%)**
57	20	10	8	4	1	AM
Titanite (%)	**Opaque minerals (%)**					
AM	AM					

Source of information: Hellenic Survey of Geology and Mineral Exploration

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
2300	3,8	1,8	-	21,0

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	
20,2	48			

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
21,0		-	-	-	-

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		
			4	-

Source of information: Hellenic Survey of Geology and Mineral Exploration

Chemical properties

Main elements

SiO_2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	TiO_2 (%)	MgO (%)	CaO (%)	Na_2O (%)	K_2O (%)	MnO (%)	P_2O_5 (%)	SO_3 (%)	LOI (%)
63,95	15,05	3,20	<0,05	0,90	2,50	5,60	5,80	<0,05	-	-	2,50

Trace elements

V (ppm)	Cr (ppm)	Mn (ppm)	Co (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)
0,0	4,0	42	3,0	8,0	6,0	12	6,0
Sr (ppm)	Cd (ppm)	Ba (ppm)	Pb (ppm)	Be (ppm)	Rb (ppm)	Bi (ppm)	U (ppm)
135	0,0	92	3,0	0,0	1,0	0,0	0,0
Sc (ppm)	Y (ppm)	Th (ppm)	Sb (ppm)	Ta (ppm)	Nb (ppm)	Zr (ppm)	Sn (ppm)
11	23	40	1,0	1,0	1,0		
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: Hellenic Survey of Geology and Mineral Exploration

Sources of more information

Type of information	Name of provider	URL
This data sheet	Hellenic Survey of Geology and Mineral Exploration	https://www.eagme.gr/
Non-commercial directory		
Commercial directory		
Scientific publication		
Other publication		

Compiled by:	**Hellenic Survey of Geology and Mineral Exploration (H.S.G.M.E.)** https://www.eagme.gr/	